

SEQ ID NO. 8

GGGSPGWGCAGIPDSAPGAGVLQAGAVGPARGGQGAEEVGESAGGGEERRVRHPQAPALRLLNRKPQGGSGEIKTPE
 NDLQRGRLSRGPRTPAPPAPGMGDRSGQQERSVPHSPGAPVGTSAAAVNGLLHNGFHPPPVQPPHVCSRGPVGGSDAA
 PQRLLPLPELQPPQLLPQHDSPAKKCRLRRRMDSGRKNRPPFPWFGMDIGGTLVKLVYFEPKDIATAEEEQEEVENLK
 SIRKYLTSNTAYGKTGIRDVHLELKNLTMCGRKGNLHFIQMGSEKNFSSLHTTLCATGGGAFKFEE
 DFRMIADLQLHKLDELDCLIQGLLYVDSVGFNGKPECYFENPTNPCLCQKPYCLDNPYPMLLVNMGSGVSILAVY
 SKDNYKRVGTGSLGGGTFLGLCCLLTGCETFEEALEMAAKGDSTNVDKLVKDIYGGDYERFGLQGS AVASSFGNMMS
 KEKRDSISKEDLARATLVTTITNIGSIARMCALNENIDRVVFGNFLRINMVMKLLAYAMDFWSKGQLKALFLEHE
 GYFGAVGALLELFKMTD

SEQ ID NO. 9

MRPVALLLLPSLLALLAHGLSLEAPTGVKGQAPGIEETDGEHTAAPTPEQPERGVHFVTTAPTCLKLLNHHPLLEEF
 HEGLEKGDDELRPALSFQDPDPAPFTPSALPRLANQDSRPVFTSPTPAMGAVPTQPQSKEGPWSPESSESPMLRITAP
 LPPGSPMAVPTLGPGEIASTTPPSRAWPTTQEGPGDMGRPWVAEVVSQAGIGIGIQTITSSTASGDDEETTTTTTII
 TTTITTIVQTPGPCSWNFSGPEGSLDSPTDLSSPTDVGLDCFFYISVYPGYGVEIKVQNISLREGETVTVEGLGGPDP
 LPLANQSFLLRGQVIRSPTHQAALRFQSLPPPAGPGTTFHFHYQAYLLSCHFPRRPAYGDVTVTSLHPGGSARFHCAT
 GYQLKGARHLTCLNATQPFWDSKEPVCIAACGGVIRNATTGRIVSPGFPGNYSNNLTCHWLLEAPEGQRLHLHFEKV
 SLAEDDDRLIIRNGDNVEAPPVYDSYEVEYLP IEGLLSSGKHFFVELSTDSSGAAAGMALRYEAFQQGHCEYEPFVKY
 GNFSSTPTYPVGTTFVEFSCDPGYTLEQGSIIIECVDPHDPQWNETEPACRAVCSGEITDSAGVVLPTPEPEPYGRGQ
 DSIWGVHVEEDKRIMLDIRVLRIGPGDVLTFYDGGDLTARVLGQYSGPRSHFKLFTSMADVTTIQFQSDPGTSVLGYQ
 QGFVIHFFEVPRNDTCPELPEIPNGWKSPSQPELVHGTVVTYQCYPGYQVVGSSVLMCQWDLTWEEDLPSCQRTVSC
 HDPGDVEHSRRLISSPKFPVGATVQYICDQGFVLMGSSILTCHDRQAGSPKWSDRAPKCLLEQLKPCCHLSAPENGA
 RSPEKQLHPAGATIHFSAPGYVLKGQASIKCVPGHPSHWSDPPPICRAASLDGFYNSRSLDVAKAPAASSTLDAAH
 IAAAI FLPLVAMVLLVGGVYFYFSRLQGKSSQLPRPRPRPNRITIESAFDNPTYETGSLSFAGDERI

SEQ ID NO. 10

EKALALTGNQGIEAAMDWLMHEHDDPDVDEPLETPLVTPYGEPTSSEQGGLEGSGSAAGEGKPALSEEERQEQTARM
 LELVAQKQREEREEREEREALERERQRRRQGGELSAARQRLQEDEMRRAAEERRREKAEELAARQVREREIERDKAER
 AKKYGGSVGSQPPVAPPEPGVPSSPSQEPKPKREYDQCRIQVRLPDGTSLTQTFRAREQLAAVRLYVELHRGEELG
 GGQDPVQQLSGFPFRRRAFSEADMERPLQELGLVPSAVLIVAKKCPS

SEQ ID NO. 11

SLHLSERADWQYSQRELDAVEVFFSRRTARDNRLGCMFVRCAPSSRYTLLFSHGNAVDLGQMCSFYIGLGSRINCNI
 SYDYSYGVSSGKPKSEKNLYADIDAAWQALRTRYGVSPENIILYGQSIGTVPTVDLASRYECAAVILHSPMLSGLRV
 AFPDTRKTYCFDAFPSSIDKISKVTSPLVVIHGTEDEVIDFSHGLAMYERCPRAVEPLWVEGAGHNDIELYAQYLERL
 KQFIHELPHNS

SEQ ID NO. 12

MTMEKGMSSGEGLPSSRSQVSAGKITAKELETKQSYKEKRGGFVLVHAGAGYHSESKAKEYKHVCKRACQKAIEKLQ
 AGALATDAVTAALVELEDSPTNAGMGSNLNLLGIECDASIMDGKSLNFGAVGALSGIKNPVSVANRLLCEGQKKG
 LSAGRIPPCFLVGEAGYRWAVDHGIPSCPPNIMTTRFSLAAFKNRKRKLELAERVDTDFMQLKKRRQSSEKENDSGT
 LDTVGAVVVDHEGNVAAVSSGGLALKHPGRVGAALYGCWCWAENTGAHNPYSTAVSTSGCGEHLVRTILARECSH
 ALQAEDAHQALLETMQNKFISSPFLASEDGVLLGGVIVLRSCRCSAEPDSSQNKQTLLEVEFLWSHTTESMCMVGYMSAQ
 DGKAKTHISRLPPGAVAGQSVIAIEGGVCRLESPVN

SEQ ID NO. 13

KIKDCYGLGSGQNHFIKDSQWEQQAEIFNASYKKYLDREWEEEP LSTATFYFLLPSCLFAMPPEVKGPSGMACVLGI
 HWTRSHNFFLYSLNRTLKDKADPEGVWPCAAPIAVSQLSGSSSYLVLACEDGVLTLDLAKGFPLGVAALPQGCFCQ
 SIHFLKYFSVHKQNMYPGQVKSQMKCVVLCTDASLHLVEASGTQGP TISVLVERPVKHLDKTICAVAPVPALPGM
 VLIFSKNGSVCLMDVAKREIICAFAPPGAFPLEVPWKPVFAVSPDHPCFLLRGDYSHETASTDDAGIQYSVFYFNFE
 ACPLLENISKNCTIPQRDLNMAFPQALPLEKRCERFLQKSYRKLEKNPEKEEEHWARLQRYSLSLQRENFKK

SEQ ID NO. 14

MKGYYLKKGKIGKVPVRFLVDGSAQVSVVHPNLWEEVTDGDLDTLQPFENVVKVANGAEMKILGVWDTAVSLGKLKL
 KAQFLVANASAEBAIIGTDLQDHNAILDFEH

SEQ ID NO. 15

MSFICGLQSAARNHVFFRNSLSNWRKCNLTASTSRGCHQVQVNHIVNKYQGLGVNQCDRWSFLPGNFHFYSTFMNK
RTGGLSSTKSKEIWRITSKCTVWDAFSRQLLIKEVTAVPSLSVLHPLSPASIRAIRNFHTSPRFQAAAPVPLLLMIL
KPVQKLFALIVGRGIRKWWQALPPNKKEVVKENIRKNKWKLFGLGLSSFGLLFVVVFYFTHLEVSPITGRSKLLLLGKE
QFRLLSELEYEAWMEEFKNDMLTEKDARYLAVKEVLCHLIECNKDVPGISQINWVIHVVDSPINAFVLPNGQMFVF
TGFLNSVTDIHLQSLFLLGHEIAHAVLGHAEEKAGMVHLLDFLGMIFLTMIWAI CPRDSLALLCQWIQSKLQEYMFNR
PYSRKLEAEADKIGLLAAKACADIRASSVFWQQMEFVDSLHGQPKMPEWLSTHPSHGNRVEYLDRLIPQALKIREM
CNCPLSNPDPRLLFKLSTKHFLEESEKEDLNITKKQKMDTLPIQKQEQIPLTYIVEKRT

SEQ ID NO. 16

MNNLSFSELCCFLCCPPCPGKIASKLAFLPPDPTYTLMCDESGSRWTLHLSERADWQYSSREKDAIECFMTRTSKGN
RIACMFVRCSPNAKYTLFSGHNAVLDGQMSSFYIGLGSRLNCNIFSYDYSYGASSGKPTKKNLYADIEAAWLALR
TRYIRPENVIYQSIGTVPVSDLAARYESAIVLHSPLTSGMRVAFPDTKKTYCFDAFPNIDKISKITSPVLIHIG
TEDEVIDFSHGLALFERCQRPVEPLWVEGAGHNDVELYGYLERLKLQFVSQELV

SEQ ID NO. 17

GSGCLGAEKREGKNRWQGEASMERLLAQLCGSSAAWPLPLWEGDTTGHCFTQLVLSALPHALLAVLSACYLGTTPRSP
DYILPCSPGWRLRLAASFLLSVFPLLDLLPVALPPGAGPGPIGLEVLACVAAVAWISHSLALWVLAHSPHGHSRGP
LALALVALLPAPALVLTVLWHCQRGTLLPPLLPGPMPARLCLLILQLAALLAYALGWAAPGGPREPWAQEP LLPEDQE
PEVAEDGESWLSRFSYAWLAPLLARGACGELRQPQDICRLPHRLQPTYLARVFOAHWQEGARLWRALYGAFGRCYLA
LGLLKLVTMLGFSGPLLLSLLVGFLEEGQEP LSHGLLYALGLAGGAVLGAVLQNYGYEVYKVTLOARGAVLNILY
CKALQLGPSRPPTGEALNLLGTDSERLNFAGSFHEAWGLPLQLAITLYLLYQQVGVA FVGGLILALLLVPNKVIA
TRIMASNQEMLOHKDARVKLVTELLSGIRVIKFCGWEQALGARVEACRARELGRLVIKYLDAACVYLWAAALPVVIS
IVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVINGLLEAKVSLDRIQLFLDLPNHNPPQAYYSPDPPEPS
TVLELHGALFSWDPVGTSLTFISHLEVKKGMLVGIVGKVGCGKSSLLAAIAGELHRLRGRHVAVRGLSKGFGLATQE
PWIQFATIRDNILFGKTFDAQLYKEVLEACALNDDLSILPAGDQTEVGEKGVTLSSGGQRRARIALARAVYQEKELYLL
DDPLAAVDADVANHLHRCILGMLS YTTLLCTHRTYLERADAVLLMEAGRLIRAGPPSEILPLVQAVPKAWAENG
QESDSATAQSVQNPEKTKEGLEEEQSTSGRLLQBEESKKEGAVALHVYQAYWKAVGQGLALAILFSLLLMQATR NAAD
WWLSHWISQLKAENSSQEAQPSTSPASMG LFSPPQLLLFSPGNLYIPVFPPLPKAAPNGSSDIRFYLT VYATIAGVNSL
CTLLRAVLFAAGTLQAAATLHRRLLHVRMLMAPVTFNATPTGRILNRFSSDVACADDSLPFILNILLANAAGLLGLL
AVLGSGLPWLLLLLPLLSIMYYHVQRHYRASSRELRLRGLSLTSLPLYSHLADTLAGLSVL RATGATYRFEENLRLL
ELNQRQCQFATSATMQWLDIRLQLMGA AVVSAIAGIALVQHQQGLANPGLVGLSLSYALS LTGLLSGLVSSFTQTEAM
LVSVERLEEYTCDL PQEPQGPQLQGTGWL TQGGVEFQDVVLA YRPGLPNALDGVTFCVQPG EKLGI VGR TGSGKSS
LLLVLFRLLPSSGRVLLDGVDTSQLELAQLRSQ LAIIPQEPFLFSGTVRENLD PQGLHKDRALWQALKQCHLSEVI
TSMGGLDGELGEGGRSLSLGQRQLLCLARALLTD AKILCIDEATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNT
ILNSDRVLVLQAGRVVELDSPATLRNQPHSLFQQLLQSSSQGV PASLGGP

SEQ ID NO. 18

MAAVRVLVASRLAAASFTSLSPGGRTPSQRAALHLSVPRPAARVALVLSGCGVYDGTETHEASAILVHLSRGGAEV
QIFAPDVPQMVIDHTKGQPSGESRNVLTESARIARGKITDLANLSAANHDAAI FPGGFGA AKNLSTFAVDGK DCK
VNKEVERVLKEFHQAGKPIGLCC IAPVLA AKVLRGVEVTVGHEQEEGGKWPYAGTAEAIKALGAKHC VKEVSLRSVL
GGFFRNSAHEAHVDQKNKVTT PAFMCETALHYIHDGIGAMVRKVLELTGK

SEQ ID NO. 19

MAELTALES LIEMGFPRGRAEKALALTGNQGIEAAMDWLMEHEDDPDVDEPLET PLGHILGREPTSSEQGGLGSGS
AAGEGKPALSEEERQEQTKRMLELVAQKQREEREEREEREALERERQRRRQGE LSAARQLQEDEMRRAAEERRREK
AEELAAQRVRERKIERDKAERAKKYGGSVGSQPPPV APEPGVPSSPSQEPPTKREYDQCRIQVRLPDGTS LTQTFR
AREQLAAVRLVYELHRGEELGGQDPVQLLSGFP RR AFSEADMERPLQELGLVPSAVLIVAKKCP S

SEQ ID NO. 20

QVKLKIPFGNKL L DAVCLVPNKSLTYGIILTHGASGDMNLP HLM SLASHLASHGFFCLRFTCKGLNIVHRIKAYKSV
LNYLKTSGEYKLAGVFLGGRSMGSR AAASVMCHIEPDGDDFVRGLICISYPLHHPKQ QHKL RDEDLFRLKEPVLFV
SGSADEMCEKNLLEKVAQKMQAPHKIHWIEKANHSM AVKGRSTNDVFKEINTQILFWIQEITEMDKK

SEQ ID NO. 21

MNGLSSELCCFLCCPPCPGRIAAKLAFLPPEATYSLVTEPEPGPGGAGAAPLGTLRASSGAPGRWKLHLTERADFQ
YSQRELDTIEVFPTKSARRNRVSCMYVRCVTGARYTVLFSHNAVDLGQMSSFYIGLGSRLHCNIFSYDYSYGASS

GRPSERNLYADIDAAWQALRTRYGISPDSEIILYQSGISGTVPTVDLASRYECAAVVLHSPLTSGMRVAFPDTKKTYCF
DAFPNIEKVKITSPVLIHGTEDVIDFSHGLALYERCPKAVEPLWVEGTRHNDIELYSQYLEGLRRFISQEL

SEQ ID NO. 22

AQKQDMWYEDALASSHPILYLHGNAGTRCLFFTLQVLSSLYHVVTFDYRGWGDSVGTSPSERGMTYDALHVFDWI
KARSGDNPVYIWGHSLGTGATNLVRRRCERETPPDALILESPTNIREEAKSHPFISIYRYFPGFDWFFLDPITSSG
IKFANDENVKHISCPILLILHAEDDPVVPFQLGRKLYSIAAPARSFRDFKVQFVPFHSDLYGRHKYIYKSPELPRILR
EFLGKSEPEHQH

SEQ ID NO. 23

MDASIMDGKDLASAGAVSAVQCIANPIKLARLVMEKTPHCFLTDQGAQAFAAAMGVPEIPGEKLVTERNKKRLEKEKH
EKGAQKTDCCQNLGTGVALDCKGNVAYATSTGGIVNKMVGRVGDSPCLAGAGGYADNDIGAVSTTGHGESILKVN
LARLTLFHIEQGKTVEEAADLSLYMKSRVKGLGLIVVSKTGDWVAKWTSTSMPPWAAAKDGKLFHGIDPDDTTITD
LP

SEQ ID NO. 24

MLRGVLGKTFRLVGYTIQYGCIAHCAFEYVGGVVMCSGPSMEPTIQNSDIVFAENLSRHFYGIQRGDIVIAKSPSDP
KSNICKRVIGLEGDKILTTSPSDFFKSHSYVPMGHVWLEGDNLQNSTDSRCYGPPIPYGLIRGRIFFKIWPLSDFGFL
RASPNGHRFSDD

SEQ ID NO. 25

MMDSPKIGNGLPVIGPGTDIGISSLHMVGYLGKNFDSAKVPSDEYCPACREKGLKALKTYRISFQESIFLCEDLQC
IYPLGSKSLNNLISPDLLECHTPHKPQKRKSLESSYKDSLLANSKKTRNYIAIDGGKVLNSKHNGEVYDETSSNLP
DSSGQNPPIRTADSLERNEILEADTVDMATTKDPATVDVSGTGRPSPQNEGCTSKLEMPLESKCTSFPPQALCVQWKN
AYALCWLDICLSALVHSEELKNTVTGLCSKEESIFWRLLTKYNQANTLLYTSQLSGVKDGDCKKLTSEIFAETCL
NEVRDEIFISLQPQLRCTLGDMESPVFAPFLLLKLETHIEKFLYSFSWDFECSQCGHQYQNRHMKSLVTFNTVIPE
WHPLNAAHFGPCNNCNSKSQIRKMVLEKVSPIFMLHFVEGLPQNDLQHYAFHFEGCLYQITSVIQYRANNHFITWIL
DADGNWLECDLKGPCSERHKKFEVPASEIHIVIWERKISQVTDKEAACPLPKKTNDQHALSNEKPVSLTSCSVGDA
ASAETASVTHPKDISVAPRTLSQDTAVTHGDHLLSGPKGLVDNILPLTLEETIQKTASVSQNLSEAFLENKPVAN
TGILKTNLTLLSQESLMASSVSAPCNEKLIQDQFVDISFSPQVNTNMQSVQLNTEDTVNTKSVNNTDATGLIQGVKS
VEIEKDAQLKQFLTPKTEQLKPERVTSQVSNLKKKETTADSQTTTSKSLQNLKENQKKPFVGSVWVGLISRGASF
MPLCVSAHNRNTITDLQPSVKGVNFGGFKTKGINQKASHVSKKARKSASKPPPISKPPAGPPSSNGTAAHPHAHAA
SEVLEKSGSTSCGAQLNHSSYGNGISSANHEDLVEGQIHKLRKLKRLKKAEEKKLAALMSSPQSRTVRSENLEQVP
QDGSPPNDCESEDNLNLPYPIDIASESACTTVPGVSLYSSQTHEEILAEELSPTPVSTELSENGEGDFRYLGMGDSH
IPPPVPSEFNDVSQNTHLRQDHNYSPTKKNPCEVQPDSTNNACVRTLNLSPMKTDIFDEFFSSSALNALANDTL
DLPHFDEYLFENY

SEQ ID NO. 26

MLTGVTGIFCCLLGTTPNAVGPLESVESSDGYTFVEVKPGRVLRVKHAGPAPAAAPPPSSASSDAAQGDLSGLVR
CQRRITVYRNGRLLENLGRAPRADLLHGQNGSGEPAAALEVELADPAGSDGRLAPGSAGSGSGSGSGRRRRRRARRP
KRTIHIDCEKRITSCKGAQADVVLFFIHGVGGSIAIWKEQLDFFVRLGYEVVAPDLAGHGASSAPQVAAAYTFYALA
EDMRAIFKRYAKKRNVLIGHSYGVSFCTFLAHEYDPLVHKVIMINGGGPTALEPSFCSIFNMPTCVLHCLSPCLAWS
FLKAGFARQGAKEKQLLKEGNAFNVSSFVLRAMMSGQYWPEGDEVYHAELTPVLLVHGMHDKFVPVEEDQRMAEIL
LLAFLKLIDEGSHVMLECPETVNTLLHEFLLWEPEPSPKALPEPLPAPPEDKK

SEQ ID NO. 27

MRRQWGSAMRAAEQAGCMVSASRAGQPEAGPWSCSGVILSRSPGLVLCHGGIFVPFLRAGSEVLTAGAVFLPGDSCR
DDLRLHVQWAPTGAAPRGQARTGPPRLARPMRDLSPPPPSQASLSQSCDWITETLGWFALLGVRLGQEEWRRRGPM
VSPLGAVPKGAPLLVCGSPFGAFCPDIFLNTLSCGVLSNVAGPLLLTDARCLPGTEGGGVFTARPAGALVALVAPL
CWKAGEWVGFTLLCAAAPLFRAARDALHRLPHSTAALAALLPPEVGVPWGLPLRDSGPLWAAAALVECGTVWGSV
AVAPRLVVTCTRHVS PREAARVLVRSTTPKSVAIWGRVVFATQETCPYDIAVVSLEEDLDDVPVPAEHFHEGEAVS
VVGFGVFGQSCGPSVTSGILSAVVQVNGTPVMLQTTCAVHSGSSGGPLFSNHSNLLGIITSNTRDNNTGATYPHLN
FSIPITVLQPALQYQSQTQDLGGLRELDRAAEPVRVWRLQRPLAEAPRSKL

SEQ ID NO. 28

MAVARLAAVAAPVPCRSWGAAVPGPHRGLSVLLARIPQRAPRWLPACRQKTSLSFLNRPDLNLAYKKLKGKSPG
IIFIPGYLSYMNKTKALAEIEFCKSLGHACIRFDYSGVSGSDGENSEESTLGKWRKDVLSIIDDLADGPQILVGSSLG

GWLMLHAAIARPEKVVALIGVATADTLVTKFNQLPVELKKEVEMKGVWSMPSKYSEEGVYNVQYSFIKEAEHHCLLH
SPIPVNCPIRLLHGMKDDIVPWHTSMQVADRVLSTDVDVILRKHSDHRMREKADIQLLVYTIDDLIDKLSTIVN

SEQ ID NO. 29

QQGSITLSLWTLDPVLI IHLKRFRQEGDRRMKLQNMVKFPLTGLDMTPHVVKRSQSSWSLPSHWSPWRRPYGLGRDP
EDYIYDLYAVCNHGHGTMQGGHYTAYCKNSVDGLWYCFDDSDVQQLSEDEVCTQTAYILFYQRTAIPSWANSVAG
STSSSLCEHWVSRPLPGSKPASVTSAASSRRTSLASLSESVEMTGERSEDDGGCFSTRPFVRSVQRQSLSSRSVTS
LAVNENCMRPSWSLSAKLQMRSNSPSRFSGDSP IHSSASTLEKIGEADDKVS I SCFGLRNLSSSYQEPSDSHSLR
EHKAVGRAPLAVMEGVFKDES DTRRLNSSVVD TQSKHSAQGDRLPPLSGPFDNNNQIAYVDQSDSDSSPVKEVKAP
SHPGSLAKKPESTTKRSPSSKGTSEPEKSLRKGRPALASQESSLSSTSPSSPLPVKVS LKPSRSRSKADSSSRGSGR
HSSPAPAQPKKESSPKSQDSVSSPSQKQKSASALTYTASSTSAKKASGPATRSFPFPKSRSTSDHLSREGSRQSL
GSDRASATSTSKPNSPRVSQARAGEGRGAGKHVRSSSMASLRSPSTS IKSGLKRDSKSEDKGLSFFKSALRQKETRR
STDLGKTALLSKKAGGSSVKSVCKNTGDDAEERGHQPPASQQPNANTTGKEQLVTKDPASAKHSLLSARKSKSSQLD
SGVPSSPGGRQSAEKSSKLLSSSMQTSARPSQKPQ

SEQ ID NO. 30

MCGIWALFGSDDCLSVQCLSAMKIAHRGPDAFRFENVNGYTNC CFGHRLAVVDPLFGMQPIRVKKYPYLWLCYNGE
IYNHKKMQQHF EF EYQTKVDGEI ILHLYDKGGIEQTICMLDGVFAFVLLDTANKKVFLGRD TYGVRPLFKAMTEDGF
LAVCSEAKGLVTLKHSATPFLKVEPFLPGHYEVL DLKPNKVASVEMVKYHHC RDVPLHALYDNVEKLFPGFEIETV
KNNLRILFNNAVKKRLMTDRRIGCLLSGGLDSSLVAATLLKQLKEAQVQYPLQTFAIGMEDSPDLLAARKVADHIGS
EHYEVLFNSEEGIQALDEVIFSL ETYDITTVRASVGMYLISKYIRKNTDSV VIFSGEGSDEL TQGYIYFHKAPSPEK
AEEESERLLRELYLFDVLRADRTTAAHGLELRVPFLDHRFSSYYLSLPPEMRIPKNGIEKHLRET FEDSNLIPKEI
LWRPK EAFSDGITSVKNSWFKILQEYVEHQVDDAMMANAAQKFPFNTPKTKEGYYYRQVFERHYPGRADWLSHYWMP
KWINATDPSARTLTHYKSAVKA

SEQ ID NO. 31

QANCQIAILYQRFQRVVFGISQLLCSALISELTNQKEVAAWTYHYSTKAYSWNISRKYCQNRYTDLVAIQNKNEID
YLNKVLPYYSSYYWIGIRKNNKTWTWVGTKALTNEAENWADNEPNNKRNNEDCVEIYIKSPSAPGKWNDEHCLKKK
HALCYTASCQDMSCSKQGECL ETIGNYTCS CYPGFYGPCECEYVRECGELELPQHVL MNCSHPLGNFSFNSQCSFHCT
DGYQVNGPSKLECLASGIWTKNPPQCLAAQCPLKIPERGNMTC LHSAKAFQHQS SCSFSCEE GFALVGPEVVQCTA
SGVWTAPAPVCKAVQCQHLEAPSEGTMDCVHPLTAFAYGSSCKFECQPGYRVRLDMLRCIDSGHWSAPLPTCEAIS
CEPLESPVHGSMDCSPSLRAFYQD TNC SFRCAEGFMLRGADIVRCDNLGQWTAPAPVCQALQCQDLVPVNEARVNCS
HPFGAFRYQSVCSFTCNEGLLLVGASVLQCLATGNWNSVPPECQAIPCTPLLS PQNGTMTCVQPLGSSSYKSTCQFI
CDEGYSLSGPERLDCTRSGRWTDSPPMCEAIKCP ELFAPEQGS LDCSDTRGEFNVGSTCHFSCDNGFKLEGPNNVEC
TTSGRWSATPPTCKG IASLPTPGVQCPALTPGQGTMYCRHHPGTGFGNTTCYFGC NAGFTLIGDSTLSCRPSGQWT
AVTPACRAVKCSELHV NKP IAMNCSNLWGNFSYGS ICSFHCLEGQLLNGSAQTACQENGHWSTTVPTCQAGPLTIQE
ALTYFGGAVASTIGLIMGGTLLALLRKRFRQKDDGKCLNPHSHLGT YGVFTNAAFDPSP

SEQ ID NO. 32

MLRGP GPGLLLLAVQCLGTAVPSTGASKSKRQAQQMVPQSPVAVSQSKPGCYDNGKHYQINQQWERTYLGNALVCT
CYGGSRGFNCE SKPEAEETCFDKYTGN TYRVGDTYERPKDSMIWDCTCIGAGRGRISCTIANRCHEGGQSYKIGDTW
RRPHETGGYMLECVCLGNGKG EWTCKPIAEKCFDHAAGTSYVVGETWEKPYQGWMMDCTCLGEGSGRITCTSRNRC
NDQDTRTSYRIGDTWSKKDNRGNLLQCICTGNGRGEWK CERHTSVQTTSSGSGPFTDVRAAVYQPQPHQP PYPYGH
VTD SGVVYSVGMQWLKTQGNKQMLCTCLGNGVSCQETA VTQTYGNSNGEPCVLPFTYNGRTFYSC TTEGRQDGLHW
CSTTSNYEQDQKYSFCTDHTVLVQTRGGNSNGALCHFPFLYNNHNYTDCTSEGRD NMKWC GTTQNYDADQKFGFCP
MAAHEEICTTNEGVMYRIGDQWDKQHDMGHMMRCTCVGNRGEWTCIAYSQLRDQCI VDDITYNVNDTFHKRHEEGH
MLNCTCFGQGRGRWKCDPVDQCQDSETGT FYQIGDSWEKYVHGVR YQCYCYGRGIGEWHCQPLQTYPSSSGPVEVFI
TETPSQPN SHPIQWNA PQPSHISKYILRWRPKNSVGRWKEATIPGHLNSYTIKGLKPGVVYEGQLISIQQYGHQEV
RFDFTTTSTSTPVTSNTVTGETT PFSPLVATSESVTEITASSFVVSWSASDTVSGFRVEYELSEEGDEPQYLDLPS
TATSVNIPDLLPGRKYIVNVYQISEDEGEQSLILSTSQT TAPDAPPD TTVDQVDDTSIVVRWSRPQAPITGYRIVYSP
SVEGSSTELNLPETANSVTLSDLQPGVQYNITIYAVEENQESTPVV IQETTGT PRSDTVPSPRDLQFVEVTDVKVT
IMWTPPE SAVTGYRVDPVIPVNLPGEHGQRLPISRNTFAEVTGLSPGVTY YFKVFAVSHGRESKPLTAQQT TTKLDAPT
NLQFVNNETDSTVLVRWTPPRAQITGYRLTVGLTRRGQPRQYVNGPSVSKYPLRNLQPA SEYTVSLVAIKGNQESPKA
TGVTFTTLQPGSSIPPYNTVETTTIVITWTPAPRIGFKLGVRPSQGGEAPREVTSDSGSIVVSGLT PGVEYVYTIQV
LRDQQLERDAPIVNKVVTPLSPPTNLHLEANPDTGVLT VSWERSTTPDITGYRI TTTPTNGQQGNSLEE VHADQSSC
TFDNLSPGLEYNVSVYTVKDDKESVPI SDTIIPAVPPPTDLRFTNIGPDTMRVTWAPPPSIDLTNFLVRYSPVKNEE
DVAELSI SPSDNAVVL TNLLPGTEYVVS SVSSVYEQHESTPLRGRQKTGLDSPTGIDFSDITANSFTVHWIAPRATIT

GYRIRHHPEHFSGRPREDRVPHSRNSITLTNLTPGTEYVVSIVALNGREESPLLIGQQSTVSDVPRDLEVVAATPTS
 LLISWDAPAVTVRYRITYGETGGNSPVQEFVTPGSKSTATISGLKPGVDYTITVYAVTGRGDSPASSKPI SINYRT
 EIDKPSQMQVTDVQDNSISVKWLPSSSPVTGYRVTTTPKNGPGPTKTKTAGPDQTEMTIEGLQPTVEYVVSVAQNP
 SGESQPLVQTAVTNIDRPKGLAFTDVDVDSIKIAWESPQQQVSRYRVTYSSPEDGIHELFPAPDGEEDTAELOGLRP
 GSEYTVSVVALHDDMESQPLIGTQSTAIPAPTDLKFTQVTPTSLSAQWTPPNVQLTG YRVRVTPKEKTGPMKEINLA
 PDSSSVVVSGLMVATKYEVSVYALKDTLTSRPAQGVVTTLENSPPRRARVTDATETTITISWRKTETITGTFQVDA
 VPANGQTPIQRTIKPDVRSYTTITGLQPGTDYKIYLYTLNDNARSSPVVIDASTAIDAPS NLRFLATTPNSLLVSWQP
 PRARITGYIIKEYKPGSPPREVVPRPRPGVTEATITGLEPGTEYTIYVIALKNNQKSEPLIGRKKTDLPQLVTLPH
 PNLHGPEILDVPSTVQKTPFVTHPGYDTGNGIQLPGTSGQQPSVGGQMI FEEHGFRRTTPPTTATPIRHRPRPYPPN
 VGEI IQIGHIPREDVDYHLYPHGPGLNPNASTGQEALSQTTISWAPFQDTSEYIISCHPVGTDEEPLQFRVPGTSTS
 ATLTGLTRGATYNVIVEALKDQQRHKVREEVVTVGNSVNEGLNQPTDDSCFDPYTVSHYAVGDEWERMSESGFKLLC
 QCLGFGSGHFRCDSSRWCHDNGVNYKIGEKWDRQGENGQMMSC TCLGNGKGEFKCDPHEATCYDDGKTYHVGEQWQK
 EYLGAI C S C T C F G G Q R G W R C D N C R R P G G E P S P E G T T G Q S Y N Q Y S Q R Y H Q R T N T N V N C P I E C F M P L D V Q A D R E D S R E

SEQ ID NO. 33

RYNKNLEEAKRIGIKKAITANISIGAAFLLIYASYALAFWYGTTLVL SGEYSIGQVLT VFFSVLIGAFSVGQASPSI
 EAFANARGAAEYIFKIIDNKPSIDSYSKSGHKPDNIKGNLEFRNVHFSYPSRKEVKILKGLNLKVQSGQTVALVGN
 GCGKSTTVQLMQRLYDPTGEMVSVGDQDIRTINVRFLREIIGVVSQEPVLFATTIAENIRYGRENVMTDEIEKAVKE
 ANAYDFIMKLPKHFDTLVGERGAQLSGGQKQRIAIARALVRNPKILLDEATSALDTESEAVVQVALDKARKGRTTI
 VIAHRLSTVRNADVAGFDDGVIVEKGNHDELMKEKGIYFKLVTMQDESIPPVSFWRIMKLNLTWPYFVVGVFCAI
 INGGLQPAFAIIFSKIIGVFTRIDDPETKRQNSNLSLFLALGIISFITFFLQGFTEFGKAGEILTKRLRYMVFRSM
 LRQDVSWFDDPKNTTGALTTRLANDAAQVKAIGSRLAVITQNIANLGTGIIISFIYGWQLTLLLLAI VPIIAIAGV
 VEMKMLSGQALKDKKELEGSGKIA TEAIENFRTVVSLTQEQKF EHYMAQSLQVPYRNSLRKAHIFGITFSFTQAMMY
 FSYAGCFRFGAYLVAHKLMSFEDVLLVFSAVVFGAMAVGQVSSFAPDYAKAKISAAHIIMIEKTPLIDSYSTEGLM
 PNTLEGNVTFGVVFNYPTRPDIPVLQGLSLEVKKQTLALVGSSGCGKSTVVQLLERFYDPLAGKVLI CELFQLLD
 GKEIKRLNVQWLAHLGIVSQEPILFDCSIAENIAYGDNRSRVVSQEEIVRAAKEANIHA FIESLPNKYSTKVGDGKT
 QLSGGQKQRIAIARALVRQPHILLDEATSALDTESEKVVQEALDKAREGRTCIVIAHRLSTIQNADLIVVFQNGRV
 KEHGTHQQLLAQKGIYFSMVS VQAGTKRQ

SEQ ID NO. 34

MSLSFCGNNISSYNINDGVLQNSCFVDALNLVPHVFLLFITFPILFIGWGSQSSKVQIHHNTWLHFPGHNLRWILTF
 ALLFVHVCEIAEGIVSDSRRESRHLHLFMPAVMGFVATTTISIVYYHNIETS NFPKLLALFLYVWMAFITKTIKLVK
 YCQSGLDISNLRFCITGMMVILNGLLMAVEINVIRVRRYVFFMNPQKV KPPEDLQDLGVRFLQPFVNLLSKATYWW
 NTLIISAHKPIDLKAIGKLP IAMRAVTNYVCLKDAYEEQKKKVADHPNRTPSIWLAMYRAFGRPILLSSSTFRYLAD
 LLGFAGPLCISGIVQRVNETQNGTNNTTGISETLSSKEFLENAYVLAVLLFLALILQRTFLQASYVTIETGINLRG
 ALLAMIYINKILRLSTSNLSMGEMTLGQINNVAIETNQLMWFLFLCPNLWAMPVQIIMGVILLYNLLGSSALVGA
 IVLLAPIQYFIATKLAEQKSTLDYSTERLKKTNEILKGIKLLKLYAWEHIFCKSVEETRMKELSSLKTFALYTSLS
 SKLLTPFFAQTFVTHAYASGNLKPAAEFASLSLPHILVTPFLSTVVRFAVKAIISVQKLNELLSDEIGDDSWR
 TGESSLPFESCKHTGVQPKTINRKQPGRYHLDSYEQSTRRLRPAETEDIAIKVTNGYFSWGSGLATLSNIDIRIPT
 GQLTMIVGVQVCGKSSLLAILGEMQTLEGVHWSKYVYFYRNRYSVAYAAQKPWLLNATVEENITFGSPFNKQRYK
 AVTDACSLQPDIDLLPFGDQTEIGERGINLSGGQRQRCVARALYQNTNIVFLDDPFSALDIHLSDHLMQEGILKFL
 QDDKRTLVLVTHKLQYLTHADWIIAMKDGSVLREGTLKD I QTKDVELYEHWKTLMNRQDQELEKDM EADQTTLERKT
 LRRAMYSREAKAQMEDEDEEEEEDEDDNMSTVMRLRTKMPWKTCWRYLTSGGFFLLILMIFSKLLKHSVIVAI
 WLATWTSEYSINNTGKADQTYVAGFSILCGAGIFLCIVTSLTVEWMGLTAAKNLHNNLLNKIILGP IRFFDTPPLG
 LILNRFSA DTNIIDQHIPP TLES LTRSTLLCLSAIGMISYATPVFLVALLPLGVAFYFIQKYFRVASKDLQELDDST
 QLPLLCHFSETAEGLT TIRAFRHETRFKQRMLELTD TNIAYLFLSAANRWLEVRTDYL GACIVLTASIASISGSSN
 SGLVGLGLLYALTITNYLNWVVRNLADLEVQMGAVKKVNSFLTMESENYEGTMDPSQVPEHWPQEGEIKIHDLCVRY
 ENNLKPV LKHVKAYIKPGQKV GICGRTGSGKSSLSLAFFRMVIDFDGKIVIDGIDISKLP LHTLSRSLSIILQDPIL
 FSGSIRFNLDP ECKCTD DRLWEALEIAQLKNMVKSLPGGLDAVVTEGGENFSVGQRQLFCLARAFVRKSSILIMDEA
 TASIDMATENILQKVMTAFADRTVVTIAHRVHTILTADLVIVMKRGNILEYDTPESLLAQENGVFASFVRADM

SEQ ID NO. 35

RAELVALTAVQSEQGEAGGGGSPRRLGLLGSPLPPGAPLP GPGSGSGSACGQRSSAAHKRYRRLQNWGYNVLERPRG
 WAFVYHVFI FLLVFSCLVLSVLSTIQEHQELANECLLILEFVMIVVFGLEYIVRVWSAGCCCRYRGWQGRFRFARKP
 FCVIDFIVFVASVAVIAAGTQGNIFATSALRSMRFLQILRMVRMDRRGGTWKLLG SVVYAHSKELITAWYIGFLVLI
 FASFLVYLAEKDANSDFSSYADSLWWTITLTITIGYGDKTPHTWLGRVLAAGFALLGISFFALPAGILGSGFALKVQ
 EQHRQKHFEKRRMPAANLIQAARLYSTDMSTRAYLTATWYYYDSILPSFRELALLFEHVQRARNGLRPLEVRRAPV

PDGAPSRYPVATCHRPGSTSFCPGESSRMGIKDRIRMGSSQRRGTGSPKQHLAPPTMPTSPSSEQVGEATSPTKVQK
SWSFNDRTFRASRLRKPRSTAEDAPSEEVAAEKSQCELTVDIMPVKTIVIRSIRILKFLVAKRKFKETLRPYDV
KDVIEQYSAGHLDMLGRIKSLQTRVDQIVGRGPGDRKAREKGDKGPSDAEVVDEISMMGRVVKVEKQVQSIEHKL
LVGFYSRWLRSGTSASLGAVQVPLFDPDITSYHSPVDHEDISVSAQTLISIRSVSTNMD

SEQ ID NO. 36

QIFPWKCQSTQORDLWNIFKLWGTMLCCDFLAHHGTDCWYHYSEKPMNWQARRFCRDNYTDLVAIQNKAEIEYLE
KTLFPSSRYWIGIRKIGGIWTVGTNKSLEEAENWGDGEPNNKKNKEDCVEIYIKRNKDAGKWNDDACHKLKAAL
CYTASCQPWSCSGHGECVEIINNYTCNCDVGYGPGCQFVIQCEPLEAPELGTMDCHTPLGNFSFSSQCAFSCSEGT
NLTGIEETTGPFGNWSSPEPTCQVIQCEPLSAPDLGIMNCCHPLASFSFTSACTFICSEGTTELIGKKKTICSSGI
WSNPSPICQKLDKSFMSIKEGDYNPLFIPVAVMVTAFSGLAFI IWLARRLKKG

SEQ ID NO. 37

QKEGKKERAVVDKVFSSRLIQILKIMVPRTFCKETGYLVLIAMVLSRTYCDVWMIQNGTLIESGIIIGRSRKDFKRY
LLNFIAAMPLISLVNNFLKYGLNELKLCFRVRLTKYLYEEYLQAFYYKMGNLNRIANPDQLLTQDVEKFCNSVVD
LYSNLSKPFLLDIVLYIFKLTSAGAQQPASMMAYLVVSGFLTRLRRPIGKMTITEQKYEGEYRYVNSRLITNSEEI
AFYNGNKREKQTVHSVFRKLVEHLHNFILFRFSMGFIDSIIAKYLATVVGYLVVSRPFLDLSPHRLKSTHSELLED
YYQSGRMLLRMSQALGRIVLAGREMTLAGFTARITELMQVLKDLNHGKYERTMVSQQEKGIEGVQVIPLIPGAGEI
IADNIIKFDPHVLATPNGDVLIRDLNFEVRSGANVLICGPNCGKSSLFRLVGLWPLFGGRLTKPERGKLFYVPQ
RPYMTLGTLRDQVIYPDGREDQKRKGISDLVLKEYLDNVQLGHILEREKGWDSVQDWMVDVLSGGEKQRMAMARLFYH
KPQFAILDECTSAVSVDVEGYIYSHCRKVGITLFTVSHRKSLLWKHHEYLLHMDGRGNYEFKQITEDTVEFGS

SEQ ID NO. 38

MGHLLTLVFI LALAGPVLGLKECTRGSAVWCQNVKTASDCGAVKHCLQTVWNKPTVKSLPCDICKDVVTAAGDMLKD
NATEEEILVYLEKTCDWLPKPNMSASCKEIVDSYLPVILDIIKGEMSRPGEVCSALNLCESLQKHLAELNHQKQLES
NKIPELDMTEVVAFPMANIPLLLYPQDGPRSKPQPKDNGDVCQDCIQMVTDIQTAVRTNSTFVQALVEHVKEECDRL
GPGMADICKNYISQYSEIAIQMMMHMQPKEICALVGFCDEVKEMPQTLVPAKVASKNVI PALELVEPIKKHEVPAK
SDVYCEVCEFLVKEVTKLIDNNKTEKEILDADFDMCSKLPKSLSEECQEVVDYTGSSILSILLEEVSPELVCSMLHL
CSGTRLPALTVHVTQPKDGGFCEVCKKLVGYLDRNLEKNSTKQEILAALKEGCSFLPDYQKQCDQFVAEYEPVLI
ILVEVMDPSFVCLKIGACPSAHKPLLGTCKIWGSPSYWCQNTETAAQCNAVEHCKRHVWN

SEQ ID NO. 39

LTERADFQYSQRELDTIEVFPTKSARGNRVSCMYVRCVPGARYTVFFSHGNAVDLSQMSSFYIGLSRLHCNIFYDY
SGYGASAGRPSEPNLYADIDAAWQALHTRYGISPDIIILYGQSIGTVPTVDLASRYECAAUVLHSPLTSGMRVAFPD
TKTYCFDAFPNIEKVSKITSPVLI IHGMEDEVIDFSHGLALYERCPKAVEPLWVEGAGHNDIELYSQYLERLRRFIS
QELPS

SEQ ID NO. 40

MSEPGGGGGEDGSAGLEVSQNVADVSVLQKHLRKLVLPLLEDGGEAPAALEAALEEKSALEQMRKFLSDPQVHTV
LVERSTLKEDVGDEGEEKEFISYNINIDIHGVKNSLAFIKRTPVIDADKPVSSQLRVLTLSSEDSPYETLHSFIS
NAVAPFFKSYIRESKADRDGDKMAPSVEKKIAELEMGLLHLQONIEIPEISLPIHPMITNVAKQCYERGEKPKVTD
FGDKVEDPTFLNQLQSGVNRWIREIQKVTKLDRDPASGTALQEISFWNLRLALYRIQEKRESPEVLLTLDILKHGK
RFHATVSFDTDGLKQALETVNDYNPLMKDFPLNDLLSATELDKIRQALVAIFTHLRKIRNTKYP IQRALRLVEAIS
RDLSSQLLKVLGTRKLMHVAYEEFEKVMVACFEVFTWDDEYEKLQVLLRDI VKRKREENLKMVWRINPAHRKLQAR
LDQMRKFRRQHEQLRAVIVRVLRPQVTAVAQQNQGEVPEPQDMKVAEVLFDAADANAIEEVNLAYENVKEVDGLDVS
KEGTEAWEAAMKRYDERIDRVETRITARLDRDQLGTAKNANEMFRIFSRFNALFVRPHIRGAIREYQTQLIQRVKDDI
ESLHDKFKVQYPQSQACKMSHVRDLPPVSGSIIWAKQIDRQLTAYMKRVEDVLGKGWENHVEGQKLKQDGDSFRMKL
NTQEIFDDWARKVQQRNLGVSGRIFTIESTRVRGRTGNVLKLVNLFPEIITLSKEVRNLKWLGRVPLAIVNKAHQ
ANQLYPFAISLIESVRTYERTCEKVEERNTISLLVAGLKKEVQALIAEGIALVWESYKLDPYVQRLAETVFNFOEKV
DDLIIIEEKIDLEVRSLCTCMYDHKTFSEILNRVQKAVDDLNLHSYNSLP I WVNKLDMIEIERILGVRLQAGLRAWTQ
VLLGQAEDKAEVMDMDTAPQVSHKPGGEPKIKNVVHELRTNQVIYLNPIIEECRYKLYQEMFAWKMVVLSLPRIQS
QRYQGVVHYELTEEEKFYRNALTRMPDGPVAALESYSAVMGIVSEVEQYVQVWLQYQCLWDMQAEINYNRLGEDLNK
WQALLVQIRKARGTFDNAETKKEFGPVVIDYQKQSVNLYKDSWHKEVLSKFGQMLGSMNTEFHSQISKSROELEQ
HSVDTASTSDAVTFITYVQSLKRIKQFEKQVELYRNGRLLLEKQRFQFPSPWLYIDNIEGEWGAFNIMRRKDSAI
QQQVANLQMKIVQEDRAVESRTTDLTDWEKTKPVTGNLRPEEALQALTIYEGKFGRLKDDREKCAKAKEALELTD
GLLSGSEERVQVALEELQDLKGVWSELKSVWEQIDQMKEQPWVSQVPRKLRQNL DALLNQLKSF PARLRQYASYEFV
QRLLKGYMKINMLVIELKSEALKDRHWKQLMKRLHVNWVSELTLGQIWDVDLQKNEAIVKDVLLVAQGEMALEEFL

KQAKVWNTYELDLVNYQNKCRLLIRGWDDLFNKVKEHINSVSAMKLSPPYKVFEEADLSWEDKLNRMALFDVWIDVQ
 RRWVYLEGIFTGSADIKHLLPVETQRFQSISTEFLALMKVSKSPLVMDVLNIQGVQRSRLERLADLLGKIQKALGEY
 LERERSSFPFRFYVFGDEDLLEIIGNSKNVAKLQKHFKMFAGVSSIILNEDNSVVLGISSREGEVFMFKTPVSITEH
 PKINEWLTLEKEMRVTLAKLLAESVTEVEIFGKATSIDPNTYITWIDKYQAQLVVLSAQIAWSENVETALSSMGGG
 GDAAPLHVSLSNVEVTNLVLADSVLMEQPPLRRRKLHLITELVHQDVTRSLIKSKIDNAKSEFWLSQMRFYFDPK
 QTDVLQQLSIQMANAKFNYGFEYLGVDKLVQTPLTDRCYLTMTQALEARLGGSPFGPAGTGKTESVKALGHQLGRF
 VLVFNCDETFDFQAMGRIFVGLCQVGAWGCFDEFNRLEERMLSASVSQQVQCIQEALREHSNPNYDKTSAPITCELLN
 KQVKVSPDMAIFITMNPAYAGRSNLPDNLKKLFRSLAMTKPDRQLIAQVMLYSQGFRTAEVLANKIVPFFKLCDEQL
 SSQSHYDFGLRALKSVLVSAGNVKRERIQKIKREKEERGEAVDEGEIAENLPEQEILIQSVCEMVPKLVAEIDPLL
 FSLSDVFPVGVQYHRGEMTALREELKKVCQEMLYTYGDGEEVGGMWVEKVLQLYQITQINHGLMMVGPSSGSKSMAW
 RVLLKALERLEGVEGVAHIIDPKAISKDHLGYTLDPNTREWTDGLFTHVLRKIIDSVRGELQKRQWIVFDGDVDPEW
 VENLNSVLDDNKLTLTPNGERLSLPPNVRIMFEVQDLKYATLATVSRGCMVWFSEDLVSTDMIFNNFLARLRSIPLD
 EGEDEAQRRRKGKEDEGEEAASPMLQIQRDAATIMQPYFTSNGLVTKALEHAFQLEHIMDLTRLRCLGSLFSMLHQA
 CRNVAQYNANHPDFPMQIEQLERYIQRYLVYAILWSLSGDSRLKMRAELGEYIRRIITTVPLPTAPNIPIDYEVSIS
 GEWSPWQAKVPQIEVETHKVAAPDVVPTLDTVRHEALLYTWLAEHKPLVLCGPPGSGKMTLFSALRALPDMEVVG
 LNFSSATTPELLEKTFDHYCEYRRTPNGVVLAPVQLGKWLVLFCDEINLPMDKYGTQRFVIFIRQMVEHGGFYRTS
 DQTVWKLRIQFVGACNPPTDPGRKPLSHRFLRHVPVYVDYPGPASLTQIYGTFNAMLRLIPLSLRTYAEPLTAAM
 VEFYTMSQERFTQDTQPHYIYSPREMTWVRGIFEARPLETLPEGLIRIWAHEALRLFQDRLVEDEERRWTDENI
 DTVALKHFPNIDREKAMSRPILYSNWLSDYIPVDQEELRDYVKARLKVFYEEELDVPLVLFNEVLHDVLRIDRIFR
 QPQGHLLIGVSGAGKTTLRSFVAMNGLSVYQIKVHRKYTGEDFDEDLRTVLRSSGCKNEKIAFIMDESNVLDSGF
 LERMNTLLANGEVPLFEGDEYATLMTQCKEGAQKEGLMLDSHEELYKWFTSQVIRNLHVFTMNPSSSEGLKDRAAT
 SPALFNRCVLNWFWDWSTEALYQVGKEFTSKMDLEKPNYIPVDYMPVYVDKLPQPPSHREAIVNSCVFVHQTLLHQA
 ARLAKRGGRMTAITPRHYLDFINHYANLFHEKRSELEEQQMHLNVGLRKIKETVDQVEELRRDLRIKSQSELEVKNAA
 ANDKLKMKVKDQQAEEKKKVMSEIQEQLHKQQEV IADKQMSVKEDLDKVEPAVIEAQNAVKSICKQHLVEVRSMAN
 PPAVKLALESICLLLGESTTDWKQIRSIIMRENFIPTIVNFSAAEISDAIREKMKKNYMSNPSYNYEIVNRASLAC
 GPMVKWAIQAQLNYADMLKRVEPLRNLQKLEDDAKDNQQKANEVEQMIRDLEAS IARYKEEYAVLISEAQAIKADLA
 AVEAKVNRSTALLKSLSAERERWEKTSETFKNQMSIAGDCLLSAAFIAYAGYFDQMRQNLFTTWSHHLQQANIQF
 RTDIARTEYLSNADLERLRWQASSLPADDLCTENAIMLKRFRNYPLIIDPSGQATEFIMNEYKDRKIRTRTSFLDDAFR
 KNLESALRFGNPLLVQDVESYDPVLNPNVLRREVRRRTGGRVLIITLGDQDIDLSPSFVIFLSTRDPTVEFPDLCRSVT
 FVNFTVTRSSLQSQCLNEVLKAERPVDDEKRSDDLKLQGEFQLRLRQLEKSLQLALNEVKGRILDDDTIITITLENLK
 REAAEVTRKVEETDIVMQEVETVSQQYLPSTACSSYFTMESLKQIHFLYQYSLQFFLDIYHNVLNPNLKGVT
 HTQRLSIIITKDLFQVAFNRVARGMLHQDHITFAMLLARIKLGTVGEPTYDAEFQHFRLRGNEIVLSAGSTPRIQGLT
 VEQAEEAVVRLSCLPAFKDLIAKVQADEQFGIWLDDSSPEQTVPYLWSEETPATPIGQAIHRLLLIQAFRPDRLLAMA
 HMFVSTNLGESFMSIMEQPLDLTHIVGTEVKPNTPVLMCSVPGYDASGHVEDLAAEQNTQITSIAIGSAEGFNQADK
 AINTAVKSGRWMLKNVHLAPGWLMLQLEKKLHSLQPHACFRFLTMEINPKVPVNLRLRAGRIFVFEPGGVKANMLR
 TFSSIPVSRICKSPNERARLYFLLAWFHAI IQERLRYAPLGWSKKYEFGESDLRSACDTVDTWLDDTAKASGRQNIS
 PDKIPWSALKTLMAQSIYGGVRDNEFDQRLNLTFLERLFTTRSFDSEFKLACKVDGHKDIQMPDGIRREEFVQWVEL
 LPDTQTPSWLGLPNAERVLLTTQGVDMISKMLKMOMLEDEDDLAYAETEKTRTDSTSDGRPAWMRTLHTTASNWL
 HLIPQTLSHLKRVTENIKDPLFRFFEREVKMGAKLLQDVRQDLADVQVCEGKKKQTNYLRTLINELVKGILPRWS
 HYTVPAGMTVIQWVSDFSERIKQLQNISLAAASGGAKELKNIHVCLGGLFVPEAYITATRQYVAQANSWSLEELCLE
 VNVTTSQGATLDACSGVTGLKLQGATCANNKLSLSNAISTALPLTQLRWVKQTNTEKKASVVTLPVYLNFTADLI
 FTVDFEAIATKEDPRSIFYERGVAVLCTE

SEQ ID NO. 41

MANGVI PPPGASPLPQVRVPLEEPPLSPDVEEEDDLGKTLAVSRFGDLISKPPAWDPEKPSRSYSERDFEFHRHT
 SHHTHHPLSARLPPPHKLRLRPPTSARHTRRKKEKTSAPPSEGTPPIQEEGGAGVDEEEEEEEEEEGESEAEPEVE
 PPHSGTPQKAKFSIGSDEDDSPGLPGRAAVTKPLPSVGPHTDKSPQHSSSSPSPRARASRLAGEKSRPWSPSASYDL
 RERLCPGSALGNPGGPEQQVPTDEAEAQMLGSADLDDMKSHRLEDNPGVRRHLVKKPSRTQGGRGSPSGLAPILRRK
 KKKKKLDRRPHEVFVELNELMLDRSQEPHWRETARWIKFEEDVEEETERWGKPHVASLSFRSLLELRRTIAHGAALL
 DLEQTTLPGIAHLVETMIVSDQIRPEDRASVLRTLLKHSHPNDDKDSGFFPRNPSSSSMNSVLGNHHTPSHGP
 GAVPTMADDLGEPAPLWPHDPDAKEKPLHMPGGDGHGKSLKLEKIPEDAEATVVLVGCVPFLEQPAAAFVRLNEA
 VLLESVLEVPVPVRFLFVMLGPSHTSTDYHELGRSIATLMSDKLFHEAAYQADDRQDLLSAISEFLDGSIVIPPSEV
 EGRDLLRSVAAFQRELLRKRREREQTKVEMTTRGGYTAPGKELSLELGGSEATPEDDPLRTGSVFGGLVRDVRRY
 PHYPSDLRDALHSQCVAALFIFYAALSPAITFGGLLGEKTEGLMGVSELIVSTAVLGVLFSLGGAQPLLVVGFSGP
 LLVFEEAFFKFCRAQDLEYLTGRVWVGLWLVVVFLALVAAEGSFLVRYISPFTQEIFAFLISLIFYETFYKLYKVF
 TEHPLLPFPYPEGALEGSLDAGLEPNGSALPPTGPPSPRNQPNNTALLSLILMLGTFFIAFFLRKFRNSRFLGGKAR
 RIIGDFGIPISILVMVLVDYSITDITYTQKLTVPTGLSVTSPDKRSWFIPLGSAARPPPPWMMVAAAVPALLVLILIF

METQITALIVSQARRLLKSGGFHLDLLIGSLGGLCGLFGLPWLTAATVRSVTHVNALTVMRTAIAPGDKPQIQEV
REQRTVGLIASLVGLSIVMGAVLRRIPLAVLFGIFLYMGVTSLSGIQLSQRLLILMPAKHHPEQPVTWKVTRM
HLFTCIQLGCIALLWVVKSTAASLAFPFLLLLTVPLRHCLLPRLFQDRELQALDSEDAEPNFDDEDGQDEYNELHMPV

SEQ ID NO. 42

DWNVTWNTSNPDFTKCFQNTVLVWVPCFYLWACFPFYFLYLSRHRDGYIQMTPLNKTKTALGFLWIVCWADLFYSF
WERSRGIFLAPVFLVSPDLLGITMLLATFLIQLERRKGVSQSSGIMLTFWLVALVCALAILRSKIMTALKEDAQVDLF
RDITFYVYFSLLLIQLVLSCFSDRSPLFSETIHDNPNCPESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKE
DTSEQVVPVLVKNWKECAKTRKQPVKVYSSKDPAPKESKVDANEEVEALIVKSPQKEWNPSLFKVLYKTFGPY
FLMSFFFKAIHDLMMFSGPQILKLLIKFVNDTKAPDWQGYFYTVLLFVTACLQTLVLHQYFHCIFVSGMRIKTAVIG
AVYRKALVITNSARKSSSTVGEIVNLSVDAQRFMDLATYINMIWSAPLQVILALYLLWNLGSPVLAGVAVMVLMPV
VNAVMAKTKTYQVAHMKSKDNRIKLMNEILNGIKVLKYAWELAFKDKVLAIRQEELKVLKKSAYLSAVGTFTWVC
TPFLVALCTFAVYVTIDENNILDAQTAFAVSLALFNILRFPLNILPMVISSIVQASVSLKRLRIFLSHEELEPDSIER
RPVKDGGGTNSITVRNATFTWARSDDPPTLNGITFSIPEGALVAVVGQVCGKSSLLSALLAEMDKVEGHVAIKGSA
YVPQQAQWQNDLRENILFGCQLEEPYYSVVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNA
DIYLFDDPLSAVDAHVGKHFENVIGPKGMLKNKTRILVTHSMSYLPQVDVIVMSGGKISEMGSYQELLARDGAFA
EFLRTYASTEQEQAENGVTGVSGPGKEAKQMENGMLVTDASGKQLQRQLSSSSSYSGDISRHHNSTAELQKAEAK
KEETWKLMEADKAQTQGVKLSVYWDYMKAIGLFISFLSIFLFCMNHVSALASNYWLSLWTDDEIVNGTQEHTKVRLS
VYGALGISQGIAGVFGYSMAVSIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNRFSKELDTVDSMIPEVIKMF
MGSILFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVYSHFNETLLGVSVIRAFEEQ
ERFIHQSDLKVDENQKAYYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGLVGLSVSYSLQVTTYLNWLV
RMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDLDFVLRHINVTINGGEKVG
VGRTGAGKSSLTLGLFRINESAEGEIIIDGINIAKIGLHDLRFKITIIPQDPVLFSGSLRMNLDPPFSQYSDEEVWTS
LELAHLKDFVSALPDKLDHÉCAEGGENLSVGQRQLVCLARALLRKTKILVLDEATAAVDLETDDLIQSTIRTQFEDC
TVLTIHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYSMADAGLV

SEQ ID NO. 43

FCRAQDLEYLTGRVWVGLWLVVFLALVAAEGSFLVRYISPFTQEIFAFLISLIFIYETFYKLYKVTFTEHPLLPFY
PEPGVPGCWGSAKWQLPPTGEGPPSPRNQNTALLSLILMLGTFFIAFFLRKFRNSRFLGGKARRIIGDFGIPISIL
VMVLVDYSITDITYTQKLTVPGLSVTSPDKRSWFIPPLGSARFPFPWMMVAAVPAALLVLILIFMETQITALIVSQ
ARRLLKSGGFHLDLLIGSLGGLCGLFGLPWLTAATVRSVTHVNALTVMRTAIAPGDKPQIQEVREQRTVGLIASL
VGLSIVMGAVLRRIPLAVLFGIFLYMGVTSLSGIQLSQRLLILMPAKH

SEQ ID NO. 44

MAFWTQMLLLWKNFMYRRRQPVQLLVELLWPLFLFFILVAVRHSHPPLEHHECHFPNKPLPSAGTVPWLQGLICNV
NNTCFPQLTPGEEPGRLSNFNDSLVSRLADARTVLGGASAHRTLALGKLIATLRAARSTAQPQPTKQSPLEPPML
DVAELLTSLRTESLGLALGQAQEPHLSLLEAAEDLAQELLALRSLVELRALLQRPRGTSGPLELLSEALCSVRGPS
STVGPSLNWYEASDLMELVGQEPESALPDSSLPACSELIGALDSHPLSRLLWRRLKPLILGKLLFAPDTPFTRKLM
AQVNRTFEELTLRLDREVWEMLGPRIFTFMNDSNVAMLQRLLMQDEGRQPRPGGRDHMEALRSFLDPGSGGYS
WQDAHADVGLVGTGRVTECLSLDKLEAAPSEALVSRALQLLAEHRFWAGVFLGPEDESDPTEHPTDLGPGHV
RIKIRMDIDVVRTNKRDRFWDPGPAADPLTDLRYVWGGFVYLQDLVERAAVRVLSGANPRAGLYLQOMPYPYCYVD
DVFLRVLSRSLPLFLTLAWIYSVTLTVKAVVREKETRLRDTMRAMGLSRVWLWLGWFLSCLGPFLLSAALLVLVLKL
GDILPYSHPGVVFLFLAFAVATVTQSFLLSAFFSRANLAAACGGLAYFSLYLPYVLCVAWRDRLPAGGRVAASLLS
PVAFGFGCESLALLEEQGEGAQWHNVGTRPTADVFSLAQVSGLLLLDAALYGLATWYLEAVCPGQYGIPEPWNFPFR
RSYWCGRPPKSPAPCPTPLDPKVLVEEAPPGLSPGVSVRSLEKRFPGSPQPALRGLSLDFYQGHITAF LGHNGAGK
TTTTLSILSGLFPPSGGSFILGHVRSMAAIRPHLGVCQYNVLFDMTLTVDEHVWFYGRLLKGLSAAVVGPEQDRLL
QDVGLVSKQSVQTRHLSGGMQRKLSVAIAFVGGSQVVILDEPTAGVDPASRRGIWELLKYREGRTLILSTHHLDEA
ELLGDRVAVVAGGRLCCCGSPLFLRRHLGSGYYLTLVKARLPLTTNEKADTDMEGSVDTROEKNGSQSGSRVGT
LALVQHWVPGARLVEELPHELVLVLPYTGAHDGSFATLRFRELDTRLAELRLTGYGISDTSLEEIFLKVVEECAADTD
MEDGSCGQHLCTGIAGLDVTLRLKMPPEQETALENGEPAGSAPETDQSGSPDAVGRVQGWALTRQQLQALLKRFLLA
RRSRRGLFAQIVLPALFVGLALVFSLIVPPFGHYPALRLSPTMYGAQVSFFSEDAPGDPGRARLLEALLQEAGLEEP
PVQHSSHRFSAPEVPAEVAKVLASGNWTPESPSPACQCSRPGARRLLPDCPAAAGGPPPPQAVTGSGEVVQNL
TGRNLSDFLVKTYPRLVQGLKTKKWNVNEVRYGGFSLGGRDPGLPSGQELGRSVEELWALLSPLPGGALDRVLKNTAWAH
SLDAQDSLKIWFNNKGWHSMAFVNRA SNAILRAHLPPGPARHAHSITTLNHPLNLTKEQLSEALMASSVDVLVSI
CVVFAMSFVPASFTLVLEIEERVTRAKHLQLMGGLSPTLYWLGFLWDMCNLYLPACIVVLI FLAFQQRAYVAPANLP
ALLLLLLLYGWSITPLMYPASFFFSVPSTAYVVLTCINLFIGINGSMATFVLELFSQQKLQEVSRILKQVFLIFPH
FCLGRGLIDMVRNQAMADAFERLGDGRQFQSPLRWEVVGKNLLAMVIQGPLFLFTLLQLHRSQQLPQPRVRSPLLG

EEDEDVARERERVVQGATQGDVLVLRNLTKVYRGQRMPPAVDRCLGIPPGECFGLLGVNGAGKTSTFRMVTGDTLAS
RGEAVLAGHSVAREPSAAHLSMGYCPQSDAIFELLTGREHLELLARLRGVPEAQVAQTAGSGLARLGLSWYADRPAG
TYSGGNKRKLATALALVGDPAVVFLDEPTTGMDPSARRFLWNSLLAVVREGRSVMLTSHSMEECEALCSRLAIMVNG
RFRCLGSPQHLKGRFAAGHTLTLRVPAARSQPAAAFVAAEFPGAELREAHGGRLRFQLPPGGRCALARVFGELAVHG
AEHGVEDFSVSQTMLEEVFLYFSKDQKDEDETEEQKEAGVGVDPAAGLQHPKRVSQFLDDPSTAETVL

SEQ ID NO. 45

MRLKNLTFIIILIIISGELYAEKPCGFPVHENGRIAQYYYTFKSFYFPMSSIDKKLSFFCLAGYTTESGRQEEQTTCT
TEGWSPEPRCFKKCTKPDLSNGYISDVKLLYKIQENMHYGCASGYKTTGGKDEEVVQCLSDGWSSQPTCRKEHETCL
APELYNGNYSTTQKTFKVKDKVQYECATGYTAGGKKTEEVECLTYGWSLTPKCTKLKCSSLRLENGYFHPVKQTY
EEGDVVQFFCHENYYLSGSDLIQCYNFGWYPESPVCEGRRNRCPPPLPINSKIQTHSTTYRHGEIVHIEBELNFEI
HGSABIRCEDGKSTEPKCIEGQEKVACEEPPFIENGAANLHSKIYYNGDKVTYACKSGYLLHGSNEITCNRGKWT
PPECVENNENCKHPPVVMNGAVADGILASYATGSSVEYRCNEYLLRGSKISRCEQGWSSPPVCLPECTVNVDMN
RNNIEMKWKYEGKVLHGDLDIDFVCKQGYDLSPLTPLSELVQCNRGEVKYPLCTRKESKGMCTSPPLIKHGVIISS
VDTYENGSSVEYRCFDHHEFLEGSREAYCLDGMWTTPLCLEPCTLSFTEMEKNLLLLKWDFDNRPHILHGEYIEFIC
RGDTYPAELYITGSILRMQCDRGLKYPRCIPRQ

SEQ ID NO. 46

MGAAAGRSPHLGPAPARRPQRSLLLLQLLLLLVAAPGSTQAQAAPFPELCSYTWEAVDTKNNVLYKINICGSVDIVQC
GPSSAVCMHDLKTRTYHSVGDVLSRATRSLLFNTTVSCDQQGTNHRVQSSIAFLCGKTLGTPEFVTATECVHYFE
WRTTAACKKIDIFKANKEVPCYVFDEELRKHDLNPLIKLSGAYLVDDSDPDTSLFINVCRDIDTLRDPGSQLRACPPG
TAACLVRGHQAFDVGQPRDGLKLVKRDRLVLSYVREEAGKLDGCDGHSPAVTITFVCPSEERREGTIPKLTAKSNCRY
ETIEWITEYACHRDYLESKTCSLSGEQQDVSIDLTPLAQSGGSSYISDGKEYLFYLNVCGETEIQFCNKKQAAVCQVK
KSDTSQVKAAGRYHNQTLRYSDGDLTLIYFGGDECSSGFQRMSSVINFEKNKTAGNDGKGTPTVFTGEVDCTYFFTWD
EYACVKEKEDLLCGATDGKKRYDLSALVRHAEPEQNWEAVDGSQTETETKKHFFINICHRVLQEGKARGCPEDA
VAKNGSKNLGKFISPPMKEKGNILSYSDGDDCGHGKKIKTNITLVCKPGDLESAPVLRSTGEGGCFYEFEWHTAAA
CVLSKTEGENCTVFDSDQAGFSFDLSPLTKNGAYKVETKKYDFYINVCGPVSVSPCQPDGACQVAKRQVASHDEKT
WNLGSLNAKLSYYDGMILQNYRGGTPYNNERHTPRATLITFLCDRAGVGFPEYQEEEDNRYASACRWMTSYACPEEPL
ECVVTDPTSTLEQYDLSSSLAKSEGLGNGWYAMDNSGEHVTVWRKYINVCRLNPVPGCNRYASACWMTSYACPEEPL
EVVVISNLGMAKTGPVVEDSGSLLLEYVNGSACTTSDGRQTYTTRIHLVCSRGRLNSHPIFSLNWECVVSFLWNT
AACPIQTTTDTDQACSIRDPNSGFVFNLNPLNSSQGYNVSGIGKIFMNVCGTMPVCGTILGKPASGCEAETQTEEL
KNWKPARPVGIEKSLQLSTEGFITLTYKGPLSAKGTADAFIVRVCNDDVYSGPLKFLHQDIDSGQGIINTYFET
ALACVPSPVDCQVTDLAGNEYDLTGLSTVRKPWTAVDTSVDGRKRTFYLSVCNPLPYIPGCQGDVAVGSLVSEGN
NLGVVQMSPQAAANGSLSIMYVNGDKCGNQRFSTRITFECAQISGSPAFQLQDGEYVFIWRTVEACPVVRVEGDNC
EVKDPRHGNLYDLKPLGLNDTIVSAGEYTYFRVCGKLSDDVCPTSDKSKVSSCQEKREPQGFHKVAGLLTQKLTY
ENGLLKMNTTGGDTCHKVYQRSTAIFFYCDRGTQRPVFLKETSDCSYLFEWRTQYACPPFDLTECSFKDGAGNSFDL
SSLSRYSDNWEAITGTGDPEHYLINVCKSLAPQAGTEPCPEAAACLLGGSKPVNLGRVRDGPQWRDGIIVLKYVDG
DLCPDGIRKKSTTIRFTCSSESQVNSRPMFISAVEDCEYTFAWPTATACPMKSNEHDDCQVTNPSTGHLFDLSSLSGR
AGFTAAYSEKGLVYMSICGENENCPPGVGACFGQTRISVGKANKRLRYVDQVLQVLYKDGSPCPSKSGLSYKSVISF
VCRPEARPTNRPMLISLDKQCTCTLFFSWHTPLACEQATECSVRNGSSIVDLSPLIHRTGGYEAYDESEDDASDTNPD
FYINICQPLNPMHGVPCPAGAAVCKVPIDGPPIDIGRVAGPPIINPIANEIYLNFSSTPCLADKHFNYSLSIAFHC
KRGVSMGTPKLLRTSECDVFVFEWETPVVCPDEVMDGCTLTDEQLLYSFLNSSLSTSTFKVTRDSRTYSVGVCTFAV
GPEQGGCKDGGVCLLSGTGKASFGRLQSMKLDYRHQDEAVVLSYVNGDRCPPETDDGVPCVFPFIENGKSYEECIE
SRAKLWCSTTADYDRDHEWGFCHRHSNSYRTSSIIFKCDEDEDIGRPQVFSEVRGCDVTFEWKTKVVCPPKLECKFV
QKHKTDLRLSSSLTGSWSLVHNGVSYINLCQKIYKGPLGCSERASICRRTTTGDVQVLGLVHTQKLGVIGDKVVV
TYSKGYPCGGNKTASSVIELTCTKTVGRPAFKRFDIDSTYFYSWDSRAACAVKPQEVQMVNGTITNPINGKSFSLG
DIYFKLFRASGDMRTNGDNYLYEIQLSITSSRNPAACSGANICQVKPNDQHFSRKVGTSDBTKYYLQDGDLDVVFAS
SSKCGKDKTKSVSSTIFFHCDPLVEDGIPEFSHETADCQYLFWSYTSAVCPLGVGFDSENPGDDGQMHKGLSERSQA
VGAVLSLLLVALTCLLALLLYKKERRETVISKLTTCCRRSSNVSYKYSKVNKEEETDENETEWLMEEIQLPPPRQG
KEGQENGHITTKSVKALSSSLHGDDQDSEDEVLTIPEVKVHSGRGAGAESSHPVRNAQSNALQEREDDRVGLVRGEKA
RKGKSSSAQQKTVSSTKLVSFHDDSDDELLHI

SEQ ID NO. 47

LGFSLPPHLLFRRLDLQFLQRFQILKVLFPSSWSSQNALMFLTLCLTLLGDFDQFTCNLLYVSWRKDLTEHLHRL
YFRGRAYYTLNVLRDDIDNPDQRIQDVERFCRQLSSMASKLIISPFTLVYYTYQCFQSTGWLGPVSIFGYFILGT
VNKTLMGPIVMKLVHQEKLEGDFRFBKMQIRVNAEPAAFYRAGHVEHMRDRLRLQRLLOTQRELMSKELWLYIGINT
FDYLGSIYSYVIAIPIFSGVYGDLSPAELSTLVSKNAFVCIYILISCFQTQLIDLSTLSDVAGYTHRIGQLRETLLD

MSLKSQDCEILGESEWGLDTPPGWPAAPADTAFLLERVSISAPSSDKPLIKDLSLKISEGQSLLITGNTGTGKTS
 LRVLGGLWTSTRGSVQMLTDFGPHGVFLFPQKPFFTDGTREQVIYPLKEVYPDSGSADDERILRFLELAGLSNLVA
 RTEGLDQQVDWNWYDVLSPGEMQRLSFARLFYLQPKYAVLDEATSALTEEVESELYRIGQQLGMTFISVGHRSLEK
 FHSVLKLCGGGRWELMRIKVE

SEQ ID NO. 48

MAATLILEPAGRCCWDEPVRIAVRGLAPEQPVTLRASLRDEKGFQAHARYRADTLGELDLERAPALGGSFAGLEP
 MGLLWALEPEKPLVRLVKRDVRTPLAVELEVLDGHDPPGRLLCRVRHERYFLPPGVRREPVRAGRVRGTLFLPPEP
 GPFPGIVDMFGTGGGLLEYRASLLAGKGFVMAALAYNYEDLPKTMETLHLEYFEEAVNYLLSHPEVKGPVGLLGI
 SKGGELCLSMASFLKGITAAVINGSVANVGGLTRYKGETLPPVGVNRNRKIKVTKDGYADIVDLNSPLEGPDQKSF
 IPVERAESTFLFLVGQDDHNWKSEFYANEACKRLQAHGRRKPQICYPETGHYIEPPYFPLCRASLHALVGSPIIWG
 GEPRAHAMAQVDAWKQLQTFHKLHGGHEGTIPSKV

SEQ ID NO. 49

MPKAPKQPPPEPEWIGDGESTSPSGEAGRQGRNEQRGKREETARFFEEELAVEDKQAGEEEKVLKEKEQQQQQQQQQ
 QKKKRDRTRKGRKKDDVDDDGEEKELMERLKKLSVPTSDEEDEVPAPKPRGGKTKGGNVFAALIQDQSEEEEEEEKH
 PPKPAKPEKNRINKAVSEEQQPALKGKKGKEEKSXGKAKVRXXXFFLPSQMEYERQVASLKAANAENDFSVSQAEM
 SSRQAMLENASDIKLEKFSISAHGKELFVNADLYIVAGRRYGLVGPNGKGTTLKHLIANRALSIPPNIIDVLLCEQE
 VVADETPAVQAVLRADTKRLKLEEEERRLQGGLEQGGDTAAERLEKVYEELRATGAAAAEAKARRILAGLGFDPQEMQ
 NRPTQKFSGGWRMRVSLARALFMEPTLLMLDEPTNHLDLNAVIWLNLYLQGWRTLLIVSHDQGFLLDDVCTDI IHL
 AQLHYRGNMYTFKKMYQKQKELLKQYEQEKKLKLKAGGKSTKQAEKQTKREALTRKQKCRRNQDEESQEAPE
 ELLKRPKEYTVRFTFPDPPPLSPPVLGLHGVTFGYQGQKPLFKNLDFGIDMDSRICIVGPNVGVKSTLLLLLTGKLT
 PTHGEMRKNHRLKIGFFNQYAEQLRMEETPTEYLQRFNLPYQDARKCLGRFGLESHAHTIQICKLSGGQKARVVF
 AELACREPDVLIIDEPNTNLDIESIDALGEAINEYKGAIVVSHDARLITETNCQLWVVEEQSVSQIDGDFEDYKRE
 VLEALGEVMVSRPRE

SEQ ID NO. 50

KMLSSFLSPQNGTWADTFSLLLALAVALYLGYWACVLQRPRVLVAGPQFLAFLEPHCSITTETFYPTLWCFEGRLQS
 IFQVLLQSQPLVLYQSDILQTPDGGQLLLDWAKQPDSSQDPDPTTQPIVLLLPGITGSSQDQTYVLHLVNQALRDGYQ
 AVVFNNRGRGGEELRTHRAFCASNTEDLETVMNHIKHRYPQAPLLAVGISFGGILVLNHLAQARQAAGLVAALTLA
 CWDSEFETTRSLTPLNSLLFNQPLTAGLCQLVERNRKVKIEKVVDIDFVLQARTIRQFDERYTSVAFGYQDCVTTYKA
 ASPRTKIDAIRIPVLYLSAADDPFSPVCALPIQAAQHSPYVALLITARGGHIGFLEGLLPWQHWMYMSRLLHQAIAI
 FQDPEGLPDLRALLPSEDRN

SEQ ID NO. 52

LFTVTVPKELYIEHGSNVTLECNFDTGSHVNLGAITASLQKVENDTSPHRERATLLEEQLPLGKASFHIPQVQVRD
 EGQYQCIIIYGVAWDYKYLTLKVKASYRKINTHILKVPETDEVELTCQATGYPLAEVSWPNVSVANTSHSRTPEGL
 YQVTSVLRLLKPPPGRNFSCVFNTHVRELTLASIDLQSQMEPRTHPTWLLHIFIPFCIIAFIFIATVIALRKQLCQK
 LYSSKDVSIIHCAKVTLLVPIPTQTTVLQDYSSYGSPTHALSLVPKQDPYGLMR

SEQ ID NO. 53

MARGYGATVSLVLLGLGLALAVIVLAVVLSRHQAPCGPQAFAHAAVAADSKVCSDIGRAILQQQGSVPDATIAALVC
 TSVVNPQSMGLGGGVIFTIYNVTTGAQWIGVPGELRGYAEAHRRHGRLPWAQLFQPTIALLRGGHVVPVLSRFLHN
 SILRPSLQASTLRQLFFNGTEPLRPQDPLPWPALATTLETVATEGVEVFYTGRLGQMLVEDIAKEGSQLTLQDLAKF
 QPEVVDALVPLGDYTYLSPPPPAGGAILSFILNVLRGFNFSTESMARPEGRVNVYHHLVETLKFAGQRWRLGDPR
 SHPKLQNASRDLLGETLAQLIRQQIDGRGDHQLSHYSLAEAWGHGTGTSHVSVLGEDGSAAVATSTINTPFGAMVYS
 PRTGIILNNELLDLCERCPRGSGTTPSPVETGWVELPEGAGPQFQASVPHPPWCPPS

SEQ ID NO. 54

MAVTLDKDAYYRRVKRLYSNWRKGEDEYANVDAIVVSVGVDEEIVYAKSTALQTWLFGYELTDTIMVFCDDKIIIFMA
 SKKKVEFLKQIANTKGNENANGAPAITLLIREKNESNKSSFDMIEAIEKSKNGKKIGVFSKDKFPGEFMKSWNDCL
 NKEGFDKIDISAVVAYTIAVKEDGELNLMKKAASITSEVFNKFFKERVMEIVDADEKVRHSLAESVEKAIEKKYL
 AGADPSTVEMCYPPIIQSGGNYNLKFVSVSDKNHMHFGAITCAMGIRFKSYCSNLVRTLMVDPSQEVQENYNFLQL
 QEELLKELRHGVKICDVYNAVMDVVKQKPELLNKITKNLGFMGIEFREGSLVINSKNQYKLKKGMVFSINLGFSD
 LTNKEGKKPEEKTYALFIGDVLVDEDDPATVLTSVKKKVKVNGVIFLKNEDEEEEEEKDEAEDLLGRGSRAALLTE
 RTRNEMTAEEKRRRAHQKELAAQLNEEAKRRLTEQKGEQQIQKARKSNVSYKNPSLMPKEPHIREMKIYIDKKYETVI
 MPVFGIATPFHIATIKNISMSVEGDYTYLRINFYCPGSALGRNEGNIFPNPEATFVKEITYRASNIKAPGEQTVPAL

NLQNAFRIIKEVQKRYKTREAEKEKEGIVKQDSLVINLNRSNPKLKDLYIRPNIAQKRMQGSLEAHVNGFRFTSVR
GDKVDILYNNIKHALFQPCDGEIIVLHFHLKNAIMFGKKRHTDVQFYTEVGEITTDLGKHQHMHDRDDLYAEQMER
EMRHKLKTAFAKNFIEKVEALTKEELEFEVPPFRDLGFNGAPYRSTCLLQPTSSALVNATEWPPFVVTLDLEVELIHFER
VQFHLKNFDMVIVYKDYSKVMTMINAIPVASLDPIKEWLNSCDLKYTEGVQSLNWTIMKTIVDDPEGFFEQGGWSF
LEPEGEESDAEEGDSESEIEDETNPSEDDYEEEEEDSDYSEAEESDYSKESLGSEESGKDWDELEEEARKAD
RESRYEEEEEQSRMSRKRKASVHSSGRGSRNRGSRHSSAPPKKKRK

SEQ ID NO. 55

SPILCGAATALNCSLCPQDSNLSVHTENPDLTPCFQNSLLAWVPCIYLWVALPCYLLYLRRHCRGYIILSHLSKLM
VLGVLLWCVSWADLFYSFHGLVHGRAPAPVFFVTPLVVGVTMLLATLLIQYERLQGVQSSGVLIIFWFLCVVCAIVP
FRSKILLAKAEGEISDPFRFTTFYIHFALVLSALILACFREKPPFFSAKNVDPNYPETSAGFLSRLFFWWFTKMAI
YGYRHPLEEKDLWSLKEEDRSQMVVQQLLEAWRKQEKQTARHKASAAPGKNASGEDEVLLGARPRPRKPSFLKALLA
TFGSSFLISACFKLIQDLSFINPQLLSILIRFISNPMAPSWWGFLVAGLMFLCSMMQSLILQHYYHYIFVTGVKFR
TGIMGVIRKALVITNSVKRASTVGEIVNLMSSVDAQRFMDLAPFLNLLWSAPLQIILAIYFLWQNLGPSVLAVAFM
VLLIPLNGAVAVKMAFQVQKMKLKDSTRIKLMSEILNGIKVLKLYAWEPSFLKQVEGIRQGEQLLRTAAYLHTTTT
FTWMCSPFLVTLITLWVYVYVDPNNVLDAAEKAFVSLSFNILRLPLNMLPQLISNLTQASVSLKRIQQFLSQEELDP
QSVERTISPGYAITIHSGTFTWAQDLPPTLHSLDIQVPGKALVAVVGPVCGKSSSLVSALLGEMEKLEGKVHMKGS
VAYVPQQAUIQNCTLQENVLFKALNPKRYQQTLEACALLADLEMLPGGDQTEIGEKGINLSGGQRQVSLARAVYS
DADIFLLDDPLSAVDSHVAKHIFDHVIGPEGVLAKTRVLVTHGISFLPQTDFIIVLADGQVSEMGPYPALLQRNGS
FANFLCNYAPDEDQGHLEDSWTALEGAEDKEALLIEDTSLNHTDLTDNDPVTYVYVQKQFMRQLSALSSDGEGQGRPV
PRRHLGPSEKVQVTEAKADGALTQEEKAAIGTVELSVFWDYAKAVGLCTTLAICLLYVGQSAAGANVWLSAWTND
AMADSRQNNTSRLRGVYAALGILQGFVLMMAAMAMAAGGIQAARVLHQALLHNKIRSPQSFFDTPSGRILNCFSKD
IYVDEVVLAPVILMLLNSFFNAISTLVVIMASTPLFTVVLPLAVLYTLVQRFYAATSRQLKRLESVSRSPIYSHFS
ETVTGASVIRAYNRSDFEIISDTKVDANQRSCYPYIISNRWLSIGVEFVGNVVLFAALFAVIGRSSLNPLGLVGLS
VSYSLQVTFALNWMIRMMSDLESNIVAVERVKEYSKTETEAPWVVEGSRPPEGWPPRGEVEFRNYSVRYRPGDLVL
RDLSLHVHGGEKVIGVGTGAGKSSMTLCLFRILEAAKGEIRIDGLNVADIGLHDLRSQLTIIIPQDPIILFSGTLRMN
LDPPFSYSEEDIWALELSHLHTFVSSQPAQLDFQCSEGGENLSVGQRQLVCLARALLRKSRLVLEATAAIDLET
DNLIQATIRTQFDTCTVLTIAHRLNTIMDYTRVLVLDKGVVAEFDS PANLIAARGIFYGMARDAGLA

SEQ ID NO. 56

PYCSLPRAPLHGFILGQTSTQPGGSIHFGCNAGYRLVGHSMACITRHPQGYHLWSEAIPLCQALSCGLPEAPKNGMV
FGKEYTVGTKAMYSCEGYHLQAGAEATAECLDTGLWSNRNVPPQCVPTCPDVSSISVEHGRWRILIFETQYQFQAQ
LMLICDPGYYYTGQVRIRCQANGKWSLGDSTPTCRILAKQKQPCPSSWGWLTEHLVIIILVISGELPIPPNGHRIGT
LSVYGATAIFSCNSGYTLVGSRVRECMANGLWSGSEVRCLATQTKLHSIFYKLLFDVLSSPSLTKAGHCGTPEPIVN
GHINGENYSYRGSVVYQCNAFRLIGMSVRIQQDHHWSGKTPFCVPITCGHPGNPVNGLTQGNQFNLDVVKFCN
PGYMAEGAARSQCLASGQWSDMLPTCRIINCTDPGHQENSVRQVHASGPHRFSFGTTVSYRCNHGFYLLGTPVLSCQ
GDGTWDRPRPQCLLVSCGHPGSPPHSQMSGDSYTVGAVVRYSCIGKRTLGNSTRMCGLDGHWGTSLPHCS

SEQ ID NO. 57

PLAFCGSENHSAAYRVDQGVLNNGCFVDALNVVPHVFLLFITFPILFIGWGSQSSKVHIHSTWLHFPGHNLRWILT
FMLLFVLVCEIAEGILSDGVTESHHLHLYMPAGMAFMAAVTSVYYHNIETSNFPKLLIALLVYWTAFITKTIKFV
KFLDHAIGFSQRLRFLTGLLVILYGMILLVEVNVIRVRYIFFKTPREVKKPEDLQDLGVRFLLQFPVNLSSKGTYYW
MNAFIKTAHKPIDLRAIGKLP IAMRALNYQRLCEAFDAQVRKDIQGTQGARAIWQALSHAFGRRLVLSSTFRILA
DLLGFAGPLCIFGIVDHLGKENDVFQPKTQFLGVYFVSSQEFLANAYVLAVLLFLALLLQRTFLQASYVVAIETGIN
LRGAIQTKIYNKIMHLSTSNLSMGEMTAGQICNLVAIDTNQLMWFFFLCPNLWAMPVQIIVGVILLYYILGVSAIG
AAVILLAPVQYFVATKLSQAQRSTLEYSNERLKQTNEMLRGIKLLKLYAWENIFRTRVETTRRKEMTSLRAFAIYT
SISIFMNTAIPAAVLITFVGHSFFKEADFSPSAFASLSLPHILVTPFLFLSSVVRSTVKALVSQKLSEFLSSA
EIREEQCAPHEPTPQGPASKYQAVPLRVVNRKRPAREDCRGLTGPLQSLVPSADGDADNCCVQIMGGYFTWTPDGIP
TLSNITIRIPRGQLTMIVGQVCGKSSLLAALGEMQKVSGAVFWSSMPFLPCCSPERETATDLDIRKRGPVAYASQ
KPWLLNATVEENIIFESPFNKQRYKMVIEACSLQPDIDILPHGDQTQIGERGINLSGGQRQRISSVARALYQHANNVF
LDDPFSALDIHLSDHLMQAGILELLRDDKRTVVLVTHKLQYLPHADWIIAMKDGTIQREGTLKDFQRSECQLFEHWK
TLMNRQDQELEKETVTERKATEPPQGLSRAMSSRDGLLQDEEEEEEEAAESEEDNLSSMLHQRAEIPWRACAKYLS
SAGILLLSLLVFSQLLKHMVLVAIDYWLAKWTDALTLTPAARNCSLSQECTLDQTVYAMVFTVLCSLGIVLCLVTS
VTVEWTGLKVAKRLHRSLLNRIILAPMRFFETTPGSLNRFSSDCNTIDQHIPSTLECLSRSTLLCVSALAVISYV
TPVFLVALLPLAIVCYFIQYFRVASRDLQQLDDTTQLPLLSHFAETVEGLTTIRAFRYEARFQOKLLEYTDSNNIA
SLFLTAANRWLEVRMATPLPPQEYIGACVVIIAAVTSISNSLHRELSAGLVGLGLTYALMVSNYLNMVNRNLADMEL
QLGAVKRIHGLLKTEAESYEGLLAPSLIPKNWPDQGGKIQIQNLSVRYDSSLKPVLKHNALIAAPGQKIGICGRTGSG

KSSFSLAFFRMVDTFEGHIIIDGIDI AKLPLHLTLRSRLSII LQDPVLFSGTIRFNLDPERKCS DSTLWEALEIAQLK
LVVKALPGGLDAIITEGGENFSQGGQRQLFCLARAFVRKTSIFIMDEATASIDMATENILQKVVM TAFADRTVVTIAH
RVHTILSADLVIVLKRGAILEFDPKPEKLLSRKDSVFASFVRADK

SEQ ID NO. 58

MPRNL LYSLLSSHLSPHFSTSVTS AKVAVNGVQLHYQQTGEGDHAVLLLPGMLGSGETDFGPQLKNLNKKLFTTVAV
DPRGYGHSRPPDRDFPADFFERDAKDAVDLMKALKFKKVSLLGWSGGITALIAAAKYP SYIHKMVIWGANAYVTDE
DSMIYEGIRDVSKWSETRKPLEALYGYDYFARTCEKWDGIRQFKHLPDGNICRHLLPRVQCPALIVHGEKDPLVP
RFHADFIHKHVKSRLHLMPEGKHNHLRFADEFNKLAEDFLQ

SEQ ID NO. 59

MMREWVLLMSVLLCGLAGPHTLFQPSLVLDMAKVLLDNYCFPENLLGMQEAIQQA IKSHEILSISDPQTLASVLTAG
VQSSLNDPRLVISYEPSTPEPPPQVPALTSLS EELLAWLQRGLRHEVLEGNVGYLRVDSVPGQEVLSMMGEFLVAH
VWGNLMGTSALVLDLRHCTGGQVSGIPYIISYLHPGNTILHVDTIYNRPSNTTTEIWTLPQVLGERYGADKDVVLT
SSQTRGVAEDIAHILKQMRRAIVVGERTGGGALDLRLRIGESDFFFTVPVSRSLGPLGGGSQTWEGSGVLPCVGT
AEQALEKALAILTLRSALPGVVHCLQEV LKDYTYTLVDRVPTLLQHLASMDFSTV VSEEDLVTKLNAGLQAASEDPRL
LVRAIGPTETPSWPAPDAAAEDSPGVAPELPEDEAIRQALVDSVFQVSVLPGNVGYLRFD SFADASVLGVLAPYVLR
QVWEPLQDTEHLIMDLRHNPGGPSSAVPLLLSYFQGP EAGPVHLFTTYDRRTNITQEHFSHME LPGPRYSTQRGVYL
LTSHRTATAAEFAFLMQSLGWATLVGEITAGNLLHTRTVPLLDTPEGSLALTVPVLT FIDNHGEAWLG GGVVPDAI
VLAAEALDKAQEVLEFHQSLGALVEGTGHLLEAHYARPEVVGQTSALLRAKLAQGA YRTAVDLES LASQLTADLQEV
SGDHRLLVFHSPGELVVEEAPPPPAVPSPEELTYLIEALFKTEVLPQQLGYLRFDAMAELET VKAVGPQLVRLVWQ
QLVDTAALVIDLRYPGSSYSTAIPLLC SYFFAEPRQHLYSVFDRATSKVTEVWTL PQVAGRGY GSHKDLYLIMSHT
SGSAAEAFAHMTQDLQRATVIGEPTAGGALS VGIYQVGSSPLYASMPTQMAMSATTGKA WDLAGVEPDI T VPMSEAL
SIAQDIVALRAKVPTVLQTAGKLVADNYASAELGAKMATKLSGLQSRYSRV TSEVALAEI LGADLQMLSGD PHLKAA
HIPENAKDRIPGIVPMQIPSP EVFEELIKFSFHTNVLEDNIGYLRFD MF GDGELLTQVSRLLVEHIWKKIMHTDAMI
IDMRFNIGGPTSSIPILCSYFFDEGPPVLLDKIYSRPDDSVSELWTHAQVVG ERYGSKKSMVILTSSV TAGTAEFT
YIMKRLGRALVIGEVTSGGCQPPQTYHVD D TNLYLTIPTAR SVGASDGSSWEGVGT PHVVVP AEALARA KEM LQH
NQLRVKRSPLQDHL

SEQ ID NO. 60

MAEVNIIYVTVFILKGITNRPELQAPCFGVFLVIYLVTVLGNLGLITLIKIDTRLHTPMYYFLSHLAFV DLCYSSAI
TPKMMVNFVVERNTIPFHACATQLGCFLTFMITECFL LASMAYDCYVAICSP LHYSTLMSRRVCIQLVAVPYIYSFL
VALFHTVITFR LTYCGPNLINHFYCDL PFLALSCSDTHMKEILIFAFAGFDMISSSSIVLTSYIFIIAAILRIRST
QGQHKAI STCGSHMVTVTIFYGTLIFMYLQPKSNHSLD TD KMASVFYTVVIPMLNPLIYSLRNKEVKDA

SEQ ID NO. 61

MIQLTATPV SALVDEPVHIRATGLIPFQMVS FQASLEDENGDMFY SQAHYRANEFGEVDLNHASSLG GDYMGVHPMG
LFWSLKPEKLLTRLLKRDVMNRPFQVQVKLYDLELIVNNKVASAPKASLT LERWYVAPGVTRIKVREGRLRGALFLP
PGEGLFPGVIDLFGGLGGLLEFRASLLASRGFASLALAYHNYEDLPRKPEVTDLEYFEEAANFLLRHPKVFGSGVGV
VSVCCQGVQIGLSMAIY LKQVTATVLINGTNFPFGIPQVYHGQIHQPLPHSAQLISTNALG LLELYRTFETTQVGASQ
YLFPIEEAQGF LFI VEGDKTINSKAHAEQAIGQLKRHGKNNWTL LSYPGAGHLIEPPYSPLCCASTTHDLRLHWG
GEVIPHAAAQEHAWKEIQRFLRKHLIPDVTSQL

SEQ ID NO. 62

ISPQSRDAKPNPEEPIDEDEDIQTERIRTATALTTSILDEVELKGCS SVLGHLYGCPQENVLWPM LTLREHLEVYAA
VKGLRKADARLA IARLVSAFKLHEQLNVPVQKLTAGITRKL CFVLSLLGNSPVLLLD EPSTGIDPTGQQQMWQAIQA
VVKNTERGVL LTTNLAEEALCDRVAIMVSGRLRCIGSIQHLKNKL GKDYILELKVKETSQVTLVHTEILKLPQA
AGQERYSSLLTYKLPVADVPLSQTFHKLEA

SEQ ID NO. 63

WNTSNPDFTKCFQNTVLVWVPCFY LWACFPFYFLYLSRHDRGYIQMTPLNKTKTALG FLLWIVCWADLFYSFWERSR
GIFLAPVFLVSPTLLGITMLLATFLIQ LERRKGVS SSGIMLTFWLVALVCA LAILRSKIMTALKEVDLFRDITFYVY
FSLLLIQLVLSCFSDRSPLFSETIHDNPNCP ESSASFLSRITFWWITGLIVRGYRQPLEGSDLWSLNKEDTSEQVVP
VLVKNWKKECAKTRNSSGSGESCSANTEALFPAPTCHKS FQALSLLLCRL LIKFVNDTKAPDWQGYFYTVLLFVTAC
LQTLVLHQYFHCIFVSGMRIKTAVIGAVYRKALVITNSARKSSTVGEIVNLMSVDAQR FMDLATYINMIWSAPLQVI
LALYLLWLVPADVLTAVSSKVAHMKSKDNRIKLMNEILNGIKVLKLYAWELAFKDKVLAIRQEELKVLKKSAYLSA
VGTFTWVCTPFLVALCTFAVYVTIDENNILDAQTA FVSLALFNILRFPLNILPMVISSIVQVQGEAGATSERGPWGS

RPRKHGTRQASFSVAEPGVLCRFSITFSIPEGALVAVVGQVCGKSSLLSALLAEMDKVEGHVAIKGSVAYVPQQA
 IQNDSLRENILFGCQLEEPYRSVIQACALLPDLEILPSGDRTEIGEKGVNLSGGQKQRVSLARAVYSNADIYLFDD
 PLSAVDAHVGKHIFENVIGPKGMLKNKSCDISDLQVKLSVYWDYMKAIGLFISFLSIFLFMCNHVSALASNYWLSL
 WTDDPIVNGTQEHTKVRLSVYGALGISQGIIVFGYSMAVSIIGGILASRCLHVDLLHSILRSPMSFFERTPSGNLVNR
 FSKELDTVDSMIPEVIKMFMSLFNVIGACIVILLATPIAAIIIPPLGLIYFFVQRFYVASSRQLKRLESVSRSPVY
 SHFNETLLGVSVIRAFEEQERFIHQSDLKVDENQKAYPSIVANRWLAVRLECVGNCIVLFAALFAVISRHSLSAGL
 VGLSVSYSLQVTTYLNWLVRMSSEMETNIVAVERLKEYSETEKEAPWQIQETAPPSSWPQVGRVEFRNYCLRYREDL
 DFLVRHINVTINGGEKVGIVGRTGAGKSSLTGLFRINESAEGEIIDGINIAKIGLHDLRFKITIIPQDPVLFSGS
 LRMNLDPPFSQYSDEEVWTSLELAHLKDFVSALPDKLDHECAEGGENLSVGQRQLVCLARALLRKTILVLDEATAAV
 DLETTDLIQSTIRTQFEDCTVLTIAHRLNTIMDYTRVIVLDKGEIQEYGAPSDLLQQRGLFYMAKDAGLV

SEQ ID NO. 64

HRLIGHSSAECILSGNTAHWSTKPPICQRI PCGLPPTIANGDFISTNRENFHYGSVVTYRCNLGSRGRKVFELVGE
 SIYCTSNDDQVGIIWSGPAPQCIIPNKCTPPNVENGILVSDNRSLSLNEVVEFRCPQPGFVMKGP RRVKCQALNKWEP
 ELPSCSRVCQPPPEILHGEHTPSHQDNFSPGQEVFYSCPEGYDLRGAASLHCTPQGDWSPEAPRCAVKSCDDFLGQL
 PHGRVLFPLNLQLGAKVSFVCDGEGFRLKGSSVSHCVLVGMRSLLWNNSVPVCEHIFCPNPPAILNGRHTGTSPGDI
 PYGKEISYTCDPHPDRGMTFNIGESTIRCTSDPHGNVWSSPAPRCELSVRAGHCKTPEQFPFASPTIPINDFEFPVG
 TSLNYECRPGYFGKMFISCLLENLVSSVEDNCRKSCGPPPEPFNGMVHINTDTQFGSTVNYSCNEGFRLIGSPST
 TCLVSGNNVTWDDKAPICEIISCEPPPTISNGDFYSNNRTSFHNGTVVITYQCHTGPDGEQLFELVGRSIIYCTSKDD
 QVGWSSPPRCISTNKCTAPEVENAIRVPGNRSFFTLTEIIRFCRQPGFVMVGSHTVQCQTNGRWGPKLPHCSRVC
 QPPHILHGEHTLSHQDNFSPGQEVFYSCPEGYDLRGAASLHCTPQGDWSPEAPRCTVKSCDDFLGQLPHGRVLLPLN
 LQLGAKVSFVCDGEGFRLKGRSASHCVLAGMKALWNSSVPVCER

SEQ ID NO. 65

MRGPPAWPLRLLEPPSPAEPGRLLPVACVWAAASRVPGSLSPFTGLRPARLWGAGPALLWGVAARRWRSRSGRGGGP
 GASRGVLGLARLLGLWARGPGSCRCGAFAGPGAPRLPRARFPGGPAAAAWAGDEAWRRGPAAPPDGRRLRPAAGL
 PEARKLLGLAYPERRRLAAAVGFLTMSVVISMSAPFFLGKIIDVIYTNPTVDYSDNLRCLGLSAVFLCGAAANAI
 RVYLMQTSQQRIVNRLRSLFSSILRQEVAFDCKTRTGELINRLSSDTALLGRSVTENLSDGLRAGAQAQSVGISMMF
 FVSPNLATFVLSVVPVSIIAVIYGRYLRKLTKVTDQSLAQATQLAEERIGNVRTVRAFGKEMTEIEKYASKVDHVM
 QLARKEAFARAGFFGATGLSGNLIIVLSVLYKGGLLMGSAHMTVGEISSFLMYAFWVGISIGGLSSFYSELMKGLGAG
 GRLWELLEREPKLPFNEGVILNEKSFOGALEFKNVHFAYPARPEVPIFQDFSLSPSGSVTALVGPSSGSKSTVLSL
 LLRLYDPASGTISLDGHDIRQLNPVWLRISKIGTVSQEPILFSCSIAENIAYGADDPSSVTAEEIQRVAEVANAVAFI
 RNFPPQGFNTVVGEKGVLLSGGQKQRIAIARALLKNPKILLLDEATSALDAENEYLVQEALDRLMDGRTVLVIAHRLS
 TIKNANMVAVLDDQGKITEYKGHEELLKSKPNGIYRKL MNKQSFISA

SEQ ID NO. 66

GILTWYIEAVHPGMYGLPRPWYFPLQKSYWLGSGRTEAWESWPWARTPRLSVMEEDQACAMESRRFEETRGMEEEP
 THLPLVVCVDKLTKVYKDDKKLALNKLNLNLYENQVVSFLGHNGAGKTTHHNVLFDRLTVEEHLWFYSRLKSMAQEE
 IRREMDKMIEDLELSNKRHSLVQTLSSGGMKRKLSVAIAFVGGSRAILDEPTAGVDPYARRAIWDLILKYKPGRTIL
 LSTHHMDEADLLGDRIAIISHGKLKCCGSPLFLKGTGIDGYRLTLVKRPAEPGGPQEPGLASSPPGRAPLSSCSELQ
 VSQFIRKHVASCLLVSDTSTELSYILPSEAAKKGAERLFQHLERSLDALHLSSFGMLMDTTLEEVLKVSEEDQSLE
 NSEADVKESSKRDVLPAGEGPASGEGHAGNLARCELTQSQASLOSASSVGSARGDEGAGYTDVYGDYRPLFDNPQDP
 DNVSLQEVAEALSRVGQSRKLDGGWLKVRQFHGLLVKRFHCARRNSKALFSQILLPAFFVCVAMTVALSVP EIGD
 LPPLVLSPSQYHNYTQPRGNFIPIYANEERREYRRHPAGASLVGGASEGAGTALVGQAGEGAGLARGGDWQPHLT
 IWRGGEDLGPESAAPAPPCAGITVTNHPMNKTSASLSLDYLLQGTDVVIAIFIIVAMSFVPASFVFLVAEKSTKAKH
 LQFVSGCNPIIYWLANYVWDMNLNLYLPATCCVILFVFDLPAYTSPTNFPVAVLSLFLLYGWSITPIMYPASFVFEV
 SSAYVFLIVINLFIGITATVATFLLQLFEHDKDLKVNSYLKSCFLIFPNYNLGHGLMEMAYNEYINEYYAKIGQFD
 KMKSPFEWDIVTRGLVMAVEGVVGFLLTIMCQYNFLRRPQRMVSTKPVEDDQVVASERQVRVLRGSDNDMCFGLL
 GVNGAGKTSTFKMLTGDESTTGGEAFVNGHSLKELLQVQSLGYCPQCDALFDELTAREHLQLYTRLRGISWKDEA
 RVVKWALEKLELTKYADKPAGTYSGGNKRKLSTAIALIGYPAFIFLDEPTTGMDPKARRFLWNILDLIKTGRSVVL
 TSHSMEECEALCTRLAIMVNGRLRCLGSIQHLKNRFGDGYMITVRTKSSQSVKDVVRFFNRNFP EAMLKERHHTKVQ
 YQLKSEHISLAQVFSKMEQVSGVLGIEDYSVSQTTLDNVFVNFVAKKQSDNLEQQETEPSPALQSPLGCLLSLLRPRS
 APTELRALVADEPEDLDTEDEGLISFEEERAQLSFNTDTLC

SEQ ID NO. 67

MGPGRPAPAPWPRHLLRCVLLLGCLHLGRPGAPGDAALPEPNIIFLIFSHGLQGCLEAQQGQVRVTPACNTSLPAQRW
 KWVSRNRLFNLTGMQCLGTGWPGTNTTASLGMYECDREALNLRWHCRTLGDLQLSLLL GARTSNI SKPGTLERGDQTR

SGQWRIYGSEEDLCALPYHEVYTIQGNSHGKPCITIPFKYDNQWFHGCTSTGREDGHLWCATTQDYGKDERWGFCPIK
 SDCETFWDKDQLTDSYQNFQSTLSWREAWASCEQQGADLLSITEIHEQTYINGLLTGYSSTLWIGLNDLDTSGG
 WQWSDNSPLKYLNWESDQPDNPSEENCGVIRTESSGGWQNRDCSIALPYVCKKKPNATAEPTPPDRWANVKVECEPS
 WQPFQGHYCYRLQAEKRSWQESKKACLRGGGDLVSIHSMAELEFITSKQIKQEVEELWIGLNDLKLQMNFEWSDGSLVS
 FTHWHFPFEPNNFRDSLEDCVTIWGPEGRWNDSPCNQSLPSICKKAGQLSQGAAEDHGCRKGWTHWSPSCYWLGEDQ
 VTYSEARRLCTDHGSQVLVTITNRFEQAFVSSLIYNWEGEYFWTALQDLNSTGSFFWLSGDEVMYTHWNRDQPGYSRG
 GCVALATGSAMGLWEVKNCTSFARYICRQSLGTPVTPPELPGDPPTSLTGSCPGQWASDTKLRYCYKVFSSERLQD
 KKSQVQAQACQELGAQLLSLASYYYYHFVANMLNKIFGESEPEIHEQHWFHIGLNRDPRGGQSWRWSGVGFSYH
 NFDRSRHDDDDIRGCAVLDLASLQWVAMQCDTQLDWICKIPRGTDVREPDDSPQGRREWLRQEAQYKFEHHSTWA
 QAQRICITWFQAELETSVHSQAELEDFLSHNLQKFSRAQEQHWWIGLHTSESDGRFRWTDGSIINFISWAPGKPRPVGKD
 KKCVMYMTASREDWGDQRCLTALPYICKRSNVTKETQPPDLPTTALGGCPSDWIQFLNKCQVQGGQEPQSRVKWSEAQ
 FSCEQQAQQLVTITNPLEQAFITASLPNVTFDLWIGLHASQRFQWVEQEPLMYANWAPGEPSPGSPAPSGNKPTSC
 AVVLHSPSAHFTGRWDDRSCTEETHGFICQKGTDPSPSPAPALPPAPGTELSYLNGTFRLLQKPLRWHDAALLCES
 HNASLAYVDPYPTQAFITQAARGLRTPWIGLAGEEGSRYSWVSEEPVNYVGVQDGEPPQPGGCTYVDVDGAWRTT
 SCDTKLQGAVCVSSGPPPPRRISYHSGCPQGLADSAWIPFREHCYSFHMELLLGHKEARQRCQAGGAVLSILDEM
 ENFVWEHLQSYEGQSRGAWLGMNFPKGGTLVWQDNTAVNYSNWGPPGLGPSMLSHNSCYWIQSNSGLWRPGACTN
 ITMGVVKLPRAEQSSFSFSPALPENPAALVVVLMVALLLLALLTAALILYRRRQSIERGAFEGARYSRSSSSPTEAT
 EKNILVSDMEMNEQQE

SEQ ID NO. 68

MKYILVTGGVISGIGKGIASSIGTILKSCGLRVTAIKIDPYINIDAGTFSPYEHGEVFLVNDGGEVLDLGNRYERF
 LDINLYKDNNTTGKIYQHVINKERRGDYLGKTVQVVPHTDAVQEWVMNQAKVPVDGNKEEPQICLGGTIGDIEGM
 PFVEAFRQFQFKAKRENFNCNIHVSILVPQLSATGEQKTKPTQNSVRALRGLGLSPDLIVCRSSTPIEMAVKEKISMFC
 HVNPEQVICIHDVSSSTYRVPVLLLEEQSVKYFKERLHLPIGDSASNLLFKWRNMADRYERLQKICSIALVGKYTKLR
 DCYASVFKALEHSALAINHKLNLMYIDSIDLEKITETEDPVKFHEAWQKLCKADGILVPGGFGIRGTGLKQLAISWA
 RTKKIPFLGVCLGMQLAVIEFARNCLNLKADASTEFRPNAPVPLVIDMPEHNPGNLGGTMRLGIRRTVFKTENSILR
 KLYGDVPFIEERHRHRFEVNPNIKQFEQNDLSFVGQDVGDRMEIIELANHPYFVGQVQFHPEFSSRPMKPSPPYLG
 LLLAATGNLNAYLQGGCKLSSSDRYSDASDDSFSEPRIAELEIS

SEQ ID NO. 69

SPILCGAATALNCSLCPQDSNLSVHTENPDLTPCFQNSLLAWVPCIYLVVALPCYLLYLRRHRCRGYIILSHLSKLM
 VLGVLWCVSWADLFYSFHGLVHGRAPAPVFFVTPLVVGVMTMLLATLLIQYERLQGVQSSGVLIIFWFLCVVCAIVP
 FRSKILLAKAEGEISDPFRFTTFYIHFALVLSALILACFREKPPFFSAKNVDPNPYPETSAGFLSRLFFWWFTKMAI
 YGYRHPLEEKDLWSLKEEDRSQMVMVQQLLEAWRKQEKQTARHKASAAPGKNASGEDEVLLGARPRPRKPSFLKALLA
 TFGSSFLISACFKLIQDLLSFINPQLLSILIRFISNPMAPSWWGFLVAGLMFLCSMMQSLILQHYYHYIFVTGVKFR
 TGIMGVIYRKALVITNSVKRASTVGEIVNLMVSDAQRFMDLAPFLNLLWSAPLQIILAIYFLWQNLGPSVLGAVAFM
 VLLIPLNGAVAVKMAFQVQKMKLKDSRIKLMSEILNGIKVLKLYAWEPSFLKQVEGIRQGELOLLRTAAYLHTTTT
 FTWMCSPFLVTLITLWVYVYVDPNNVLDAAKAFVSLSFNILRLPLNMLPQLISNLTQASVSLKRIQQFLSQEELDP
 QSVERKTISPGYAITIHSGTFTWAQDLPPTLHSLDIQVPKGALVAVVGPVCGKSSLSVALLGEMEKLEGKVHMKGS
 VAYVPQQAQWIONCTLOENVLFKALNPKRYQQTLEACALLADLEMLPGGDQTEIGEKGINLSGGQRQVSLARAVYS
 DADIFLLDDPLSAVDSHVAKHIFDHVIGPEGVLAKTRVLVTHGISFLPQTDFFIIVLADGQVSEMGYPALLQRNGS
 FANFLCNYPADEDQGHLEDSWTALEGAEDKEALLIEDTLNHTDLTDNDPVTYVVQKQFMRQLSALSSDGEQGRPV
 PRRHLGPSEKVQVTEAKADGALTQEEKAAIGTVELSVFWDYAKAVGLCTTLAICLLYVGQSAAGANVWLSAWTND
 AMADSRQNNSTSLRLGVYAALGILQGFVMLAAMAMAAGGIQAARVLHQALLHNKIRSPQSFFDTTPSGRILNCFSKD
 IYVVDEVLPVILMLLNSFFNAISTLVVIMASTPLFTVVILPLAVLYTLVQRFYAATSRQLKRLESVSRSPIYSHFS
 ETVTGASVIRAYNRSDFEIISDTKVDANQRSCYPYIISNRSEASLAPCSSRNSQQALWCSGSLSLSPKQKTGPA
 LPLPHFLLI

SEQ ID NO. 70

AFHQGSLILCLALQSDRLLIKGGRIINDDQSLYADVYLEGLIKQIGENLIVPGGVKTIEANGRMVIPGGIDVNTYL
 QKPSQGMTAADDFQGTAAALVGTTMIIDHVPEPGSSLLTSFEKWHEAADTKSCDYSLHVDITSWYDGVREELE
 VLVQDKGVNSFQVYMAKDVYQMSDSQLYEAFTFLKGLGAVILVHAENGDLIAEQKRILEMGITGPEGHALSRPEE
 LEAEAVFRAITIAGRINCPVYITKVMKSAAIIALARKKGPLVFGEPIAASLGTGTHYWSKNWAKAAAFVTSPLP
 SPDPTTPDYLTSLACGDLQVTGSGHCPYSTAQKAVGKDNFTLIPEGVNGIEERMTVVWDKAVATGKMNDENQFVAVT
 STNAAKIFNLYPRKGRIAGVSDADVVIWDPDKLKTITAKSHKSAVEYNI FEGMECHGSPLVVISQGKIVFEDGNINV
 NKGMRGFI PRKAFPEHLYQVRVKIRNKVFLGQGVSRGMYDGPVYEVPA TP KYATPAPS AKSSPSKHQPPP I RN LHQSN
 FSLSGAQIDDNNPRRTGHRIVAPPGGRSNITSLG

SEQ ID NO. 71

MQRALPGARQHLGAILASASVVVKALCAAVLFLYLLSFAVDTGCLAVTPGYLFPPNFWIWTLATHGLMEQHVWDVAI
SLTTVVVAGRLLLEPLWGAELELIFFSVVNVSVGLLGAFAYLLTYMASFNLVYLFTVRIHGALGFLGGVLVALKQTMG
DCVVLVRVPQVRVSVMPMLLLALLLLRLATLLQSPALASYGFGLLSSWVYLRFYQRHSRGRGDMADHFATFFPEI
LQPVVGLLANLVHSLLVKVKICQKTVKRYDVGAPSSITISLPGTDPQDAERRRQLALKALNERLKRVEDQSIWPSMD
DDEESGAKVDSPLPSDKAPTTPPGKGAAPESSLITFEAAPPTL

SEQ ID NO. 72

MPVLSRPRPWRGNTLKR TAVLLALAAYGAHKVYPLVRQCLAPARGLQAPAGEPTQEASGVAAAKAGMNRVFLQRLW
LLRLLFPRVLCRETGLLALHSAALVSRTFLSVYVARLDGRLARCIVRKDPRAFGWQLLQWLLIALPATFVNSAIRYL
EGQLALSFRSRLVAHAYRLYFSQQTYRVSNDGRLRNPQQLSTEDVVAFAASVAHLYSNLTKPLLDVAVTSYTLR
AARSRGAGTAWPSAIAGLVFLTANVLRASFSPKFGEVLAEEARRKGELRYMHSRVVANSEEIAFYGGHEVELALLQR
SYQDLASQINLILLERLWYVMLEQFLMKYVWSASGLLMVAVPIITATGYSESDAEAVKKAALKKEEELVSETEAF
TIARNLLTAAADAIERIMSSYKEVTELAGYTARVHEMFQVFEDVQRCHFKRPRELEDAQAGSGTIGRSGVRVEGPLK
IRGQVVDVEQGIICENIPIVTPSGEVVVASLNRVEEGMHLLITGPNCGCKSSLFRILGGLWPTYGGVLYKPPQRM
FYIPQRPYMSVGLRDQVIYVPSVEDMQRKGYSQDLEAILDVVHLHHILQREGGWEAMCDWKDVLSGGEKQRIGMA
RMFYHRPKYALLDECTSAVSIDVEGKIFQAAKDAGIALLSITHRPSLWKYHHTLLQFDGEGGWKFELDSAARLSLT
EEKQRLEQQLAGIPKMQRRLQELCQILGEAVAPAHVPAPSPQGPGLQAST

SEQ ID NO. 73

MDLDVVNMFVIAGGTLAIPILAFVASFLLWPSALIRIYYWYWRRTLGMQVRYVHHEDYQFCYSFRGRPGHKPSILML
HGFSAHKDMWLSVVKFLPKNLHLVCVDMPGHEGTTRSSLDLSDIDQVKRIHQFVECLKLNKKPFHLVGTSMGGQVA
GVYAAAYPSDVSSLCLVCPAGLQYSTDNQFVQRLKELQGSAAVEKIPLIPSTPEEMSEMLQLCSYVRFKVPQQILQG
LVDVRIPHNNFYRKLFLFLEIVSEKSRYSLHQNMMDKIKVPTQIIWGKQDQVLDVSGADMLAKSIANCQVELLENCGHVS
VMERPRKTAKLIIDFLASVHNTDNNK

SEQ ID NO. 74

SDRLLIRGGRIVNDQSFYADVHVEDGLIKQIGENLIVPGGIKTIDAHGLMVLPGGVDVHTRLQMPVLGMTPADDFC
QGTKAALAGGTTMILDHVPDGTGVSLLAAEYQWRERADSAACCDYSLHVDITRWHEISKEELEALVKEKGVNSFLVF
MAYKDRQCQSDSQMYEIFSIRDLGALAQVHAENGDIVEEQKRLLELGITGPEGHVLSPHEEVEAEAVYRAVTIAK
QANCPYVTKVMSKGAADAIQAARRGVVVFGEPIITASLGTDGSHYWSKNWAKAAAFVTSPPVNPDPPTADHLTCLL
SSGDLQVTGSAHCTFTTAQKAVGKDNFALIEGTNGIEERMSMVWEKCVASGKMDENEFVAVTSTNAAKIFNFYPRK
GRVAVGSDADLVIWNPKATKIISAKTHNLNVEYNI FEGVECRGAPAVVISQGRVALEDGKMFVTPGAGRFVPRKTFP
DFVYKRIKARNRLAEIHGVPRGLYDGPVHEVMVPAKPGSGAPARASCPGKISVPPVRNLHQSGFSLSGSQADDHIAR
RTAQKIMAPPGRSNITSL

SEQ ID NO. 75

MARRSVLYFILLNALINKGQACFCDHYAWTQWTSCSKTCNSGTQSRHRQIVVDKYYQENFCEQICSKQETRECNWQR
CPINCLLGDGFGPWSDCDPCIEKQGTSNFHYLNHLFTSFFHLDSFIRIHKVMKVLNFTTKAKDLHLSDFLKAALNHL
PLEYNSALYSRIFDDFGTHYFTSGSLGGVYDLYQFSSEELKNSGLTEEEAKHCVRITETKKRVLFAKKTKEVHRCTT
NKLSEKHEGSFIQGAEKSI SLIRGGRSEYGAALAWEKSSGLEEKTFSEWLESVKENPAVIDFELAPIVDLVRNIPC
AVTKRNNLRKALQEYAAKFDPCQCAPCPNNGRPTLSGTECLCVCQSGTYGENCEKQSPDYKSNVAVDQWGCWSSWST
CDATYKRSRTRECNPPAPQRGGKRCEGEKQEEDCTFSIMENNGQPCINDDEEMKEVDLPEIEADSGCPQVPVPENG
FIRNEKQLYLVGEDVEISCLTGFPETVGYQYFRCLPDGTWRQGDVEQCQRTCEIKPVVQEVLTITPFQRLYRIGESIEL
TCPKGFVVAGPSRYTCQNSWTPPISNSLTCEKDTLTKLKGHCLGQKQSGSECI CMSPEEDCSHSEDL CVFDTDS
NDYFTSPACKFLAEKCLNNQQLHFLHIGSCQDGRQLEWGLERTRLSSNSTKKESCGYDTCYDWEKCSASTSKCVCLL
PPQCFKGGNQLYCVKMGSSTSEKTLNICEVGTIRCANKMEILHPGKCLA

SEQ ID NO. 76

MERKNQTAITEFIILGFSNLNELQFLFLTIFFLTYFCTLGGNILIIILTTVTDPHLHTPMYYFLGNLAFIDICYTTSN
VPQMMVHLLSKKKSISYVGCVVQLFAFVFFVGSECLLLAAMAYDRYIAICNPLRYSVILSKVLCNQLAASCWAAGFL
NSVHTVLTFLCPLFCGNNQINIFYFCDIPPLLIILSCGNTSVNELALLSTGVFIGWTFPLCIVLSYICIIISTILRIQSS
EGRRAKAFSTCASHLAIVFLFYGSAIFTYVRPISTYSLKKDRLVSVLYSVVTPMLNP IIYTLRNKDIKEAVKTIGSKW
QPPISLDSKLT

SEQ ID NO. 77

MDPGKDKGVPQPSGPPARKKFVPLDEDEVPPGVAKPLFRSTQSLPTVDTSAQAAPQTYAHEYAISQPLEGAGATCP
 TGSEPLAGETPNQALKPGAKSNSIIVSPRQRGNPVLKVRNVPEFGDVIIDYVVLGQSTCALFLSLRYHNLHPDYIH
 GRLQSLGKNFALRVLLVQVDVKDPQQALKELAKMCILADCTLILAWSPEEAGRYLETYKAYEQKPADLLMEKLEQDF
 VSRVTECLTTVKS VNKTDSQTLTTFGSLEQLIAASREDLALCPGLGPQKARRLFDVLHEPFLKVP

SEQ ID NO. 78

MLANSASVRILIKGGKVNDCTHEADVYIENGIIQQVGRELMI PGGAKVIDATGKLVIPGGIDTSTHFHQT FMNAT
 CVDDFYHGTKAALVGGTTMIIGHVLPDKETSLVDAYEKCRGLADPKVCCDYALHVGITWWAPKVKAEMETLVREKGV
 NSFQMFMTYKDLNWNMLRDSELYQVLHACKDIGAIARVHAENGELVAEASLQPRILDGGTPGAKEALDLGITGPEGI
 EISRPEELEAEATHRVITIANRTHCPIYLVNVSSISAGDVI AAKMQGKVLAETTTAHATLTGLHYYHQDWSHAAA
 YVTVPLRLDNTSTYLSLLANDTLNIVASDHRPFTTKQKAMGKEDFTKI PHGVSGVQDRMSVIWERG VVGKMD
 NRFVAVTSSNAKLLNLYPRKGRIIPGADADVVDPEATKTISASTQVQGGDFNLYENMRCHGVPLVTISRGRVY
 ENGVMCAEGTGKFCPLRSFPD TVYKLVQREKTLKVRGVDRTPYLGDAVVVHPGKKEMGTPLADTPTRPVTRHGG
 MRDLHESSFSLSGSQIDDHVPKRASARILAPPGGRSSGIW

SEQ ID NO. 79

VTAVAQQNQGEVPEPQDMKVAEVLFDAADANAIEEVNLAYENVKEVDGLDVSKEGTEAWEAAMKRYDERIDRVETRI
 TARLRDQLGTAKNANEMFRIFSRFNALFVRPHIRGAIREYQTQLIQRVKDDIESLHDKFKVQYPQS QACKMSHVRDL
 PPVSGSIWAKQIDRQLTAYMKRVEDVLGKGWENHVEGQKLKQDGDSFRMKNLTQEI FDDWARKVQQRNLGVSGRIF
 TIESTRVRGRTGNVLKLVNPLPEIITLSKEVRNLKWLGRVPLAIVNKAHQANQLYPFAISLIESVRTYERTCEKV
 EERTISLLVAGLKKEVQALIAEGIALVWESYKLDPYVQRLAETVFNFAQEKVCSHVIL

SEQ ID NO. 80

MSDSVILRSIKKFGGEENDGFESDKSWSLNPYVFLIRLQDEKKGDGVRVGGFFQLFRFSSSTD IWL MFVGS LCAFLHG
 IAQPGVLLIFGTMTDVFIDYDVELQELQIPGKACVNNITVWNTSSLNQNMNTNGTRCGLLNIESEMIKFASYAGIAV
 AVLITGYIQICFWVIAAARQIQKMRKFYFRIMRMEIGWFD C NSV GELNTRFSDDINKINDAIADQMALFIQRMST
 ICGFLLGFRGWKLT LVII SVSPLIGIGAATIGLSVSKFTDYELKAYAKAGVVADEVISSMRTVAAFGGEKREVERY
 EKNLVFAQRWGIRKGLVMGFFTGFWCLIFLCYALAFWYGSTLVLDGEYTPGTLVQIFLSVIVGALNLGNASPCLE
 AFATGRAAATSI FETIDRKPIIDCMS SEDGYKLDRIKGEIEFHNVTFHYP SRPEVKILNDLNMVIKPGEMTALVGPSG
 AGKSTALQLIQRFYDPCEGMVTVDGHDIRSLNIQWLRDQIGIVEQEPVLFSTTIAENIRYGRE DATMEDIVQAAKEA
 NAYNFIMDLPPQFDTLVGEGGGQMSGGQKQORVAIARALIRNP KILL LDMATSALDNESEAMVQEVLSKIQHGHTIIS
 VAHRLSTVRAADTIIGFEHGTAVERGTHEELLERKGVYFTLVTLQSQGNQALNEEDIK GKCFFPILVLDATEDDMLA
 RTFSRGSYQDSL RASIRQRSKSQLSYLVHEPPLAVVDHKSTYEEDRKDKDIPVQEEVEPAPVRRILKFSAPWPYML
 VGSVGA AVNGTVTPLYAFLFSQILGTFSIPDKEEQRSQINGVCLLFVAMGCVSLFTQFLQGYAFAKSGELLTKRLRK
 FGFRAMLGQDI AWFDDL RNSPGALTTRLATDASQVQGAAGSQIGMIVNSFTNVTVAMI IAFSFSWKL S LVL CFFPF
 LALSGATQTRMLTG FASRDQALEMVGQITNEALSNI RTVAGIGKERRFIEALETELEKPFKTAIQKANIYGFCFAF
 AQCIMFIANSASYRYGGYLISNEGLHFSYVFRVISAVVLSATALGRAFSYTPSYAKAKISAARFFQLLDROPPI SVY
 NTAGEKWDNFQKIDFVDCKFTYPSRPDSQVLNGLSVSISPQOTLAFVGSSGCGKSTS IQLLERFYDPDQGV MIDG
 HDSKKVNVQFLRSNIGIVSQEPVLFACSIMDNI KYGDNTKEIPMERVIAAKQAQLHDFVMSLPEKYETNVGSQGSQ
 LSRGEKQRIAIARAIVRDPKILLLDEATSALDTESEKTVQVALDKAREGRTCIVIAHRLSTIQNADIIAVMAQGVVI
 EKGTHEELMAQKGAYYKLVTTGSPIS

SEQ ID NO. 81

MDLEAAKNGTAWRPTSAEGDFELGISSKQKRKTKTKVMIGVLTFRYSWDQDKLFMSLGTIMAI AHGSG LPLMMIV
 FGEMTDKFVD TAGNFSFPVNFSLSLNPGKILEEMTRYAYYYSGLGAGVLVAAYIQVSFWTLAAGRQIRKIRKQFF
 HAILRQEIGWFDINDTTELNTRLTDDISKISEGIGDKVGMFFQAVATFFAGFIVGFIRGWKLT LVIM AISPI LGLSA
 AVWAKILSAFSDKELAAAYAKAGAVAEALGAIRTVIAFGGQNKELERYQKHLENAKEIGIKKAISANISMGI A FL LI
 YASYALAFWYGSTLVISKEYTIGNAMTVFFSILIGAFSVGQAAPCIDAFANARGAAYVIFDIIDNNPKIDSFSERGH
 KPDSIKGNLEFNDVHFSYPSRANVKILKGLNLKVQSGQTV ALVGSSGCGKSTTVQLIQRLYDPDEGTINIDGQDIRN
 FNVNLYREIIGVVSQEPVLFSTTIAENICYGRGNVTMDEIKKAVKEANAYEFIMKLPQKFDTLVGERGAQLSGGQKQ
 RIAIARALVRNP KILL LDEATSALDTESEAEVQAALDKAREGRTTIVIAHRLSTVRNADVIAGFEDGVIVEQGS HSE
 LMKKEGVYFKLVNMQTSQSQIQSEEFELNDEKAATRMANGWKSRLFRHSTQKNLKN SQMCQKSLDVETDGLEANVP
 PVSFLKVLKLNKTEWPFYVVGTVCAIANGGLQPAFSVIFSEIIAIFGPGDDAVKQKCNIFSLIFLFLGII SFFTF
 LQGFTFGKAGEILTRRLRSMAFKAMLRQDMSWFDHKNSTGALSTRLATDAAQVQGATGTRLALIAQNIANLGTGII
 ISFIYGWQLTLLLLAVVPII AVSGIVEMKLLAGNAKRDKKELEAAGKIATEAIENIRTVVSLTQERKFESMYVEKLY
 GPYRNSVQKAHIYGITFSISQAFMYFSYAGCFRFGAYLIVNGHMRFRDVILVFS AIVFGAVALGHASSFAPDYAKAK

LSAAHLFMLFERQPLIDSYSEGLKPKDFEGNITFNEVVFNYPTRANVPVLQGLSLEVKKGQTLALVGSSGCGKSTV
VQLLERFYDPLAGTVLLDGGQEAKKLNQVWLRALQGLIVSQEPILFDCSIAENIAYGDNRSRVVSQDEIVSAAKAANIHP
FIETLPHKYETRVGDKGTQLSGGQKQRIAIARALIRQPQILLLLDEATSALDTESEKVVQEALDKAREGRTCIVIAHR
LSTIQNADLIVVFQNGRVKEHGTHQQLLAQKGIYFSMVSQAGTQNL

SEQ ID NO. 82

MDLEGDRNGGAKKKNFFKLNNKSEKDKKEKKPTVSVFSMFRYSNWLDKLYMVVGTAAIIHGAGLPLMMLVFGEMTD
IFANAGNLEDLMSNITNRSDINDTGFFMNLEEDMTRYAYYYSGIGAGVLAAYIQVSFWCLAAGRQIHKIRKQFFHA
IMRQEIGWFDVHDVDELNTRLTDDVSKINEGIGDKIGMFFQSMATFFTGFIVGFTRGWKLTLVILAI SPVLGLSAAV
WAKILSSFTDKELLAYAKAGAVAEVLAAIRTVIAFGGQKKELERYNKNLEEAKRIGIKKAITANISIGAAFLLIYA
SYALAFWYGTTLVLSGEYSIGQVLTVFFSVLIGAFSVGQASPSIEAFANARGAAYEIFKIIDNKPSIDSYKSGHKP
DNIKGNLEFRNVHFSYPSRKEVKILKGLNLKVQSQGTVALVGNSSGCGKSTTVQLMQRLYDPTEGMVSVDGQDIRTIN
VRFLREIIGVVSQEPVLFATTIAENIRYGRENTMDEIEKAVKEANAYDFIMKLPKFDTLVGERGAQLSGGQKQRI
AIARALVRNPKILLLLDEATSALDTESEAVVQVALDKARKGRTTIVIAHRLSTVRNADVIAGFDDGVIVEKGNHDELM
KEKGIYFKLVMTQTAGNEVELENAADESKSEIDALEMSSNDSRSSLIRKRSTRRSVRGSQAQDRKLSTKEALDESIP
PVSFWRIMKLNLTWPYFVVGVFCAIINGGLQPAFAIIFSIIIGVFTRIDDPETKRQNSNLFSLFLALGIISFITF
FLQGFTFGKAGEILTTLRLYMVFRSMLRQDVSWFDDPKNTTGALTTRLANDAAQVKAIGSRLAVITQNIANLGTGI
IISFIYGWQLTLLLLAIVPIIAIAGVVEMKMLSGQALKDKKELEGSGKIAIEAIENFRTVVSLTQEQKFHEMYAQL
QVPYRNSLRKAHIFGITFSFTQAMMYFSYAGCFRFGAYLVAHKLMSEFEDVLLVFSVAVFGAMAVGQVSSFPADYAKA
KISAAHIIMIIEKTPLIDSYSTEGLMPTNTEGNTVFGEVVFNYPTRPDI PVLQGLSLEVKKGQTLALVGSSGCGKST
VVQLLERFYDPLAGTVLLDGGQEAKKLNQVWLRALQGLIVSQEPILFDCSIAENIAYGDNRSRVVSQEEIVRAAKEANIH
AFIESLPNKYSTKVGDGTQLSGGQKQRIAIARALVRQPHILLLLDEATSALDTESEKVVQEALDKAREGRTCIVIAH
RLSTIQNADLIVVFQNGRVKEHGTHQQLLAQKGIYFSMVSQAGTKRQ

SEQ ID NO. 83

MLLTVCVRRDLSEVTFSLQVDADFELHNFALCELESGIPAAESQIVYAEPLTDNHRSLASYGLKDGDVILRQK
ENADPRPPVQFPNLPRIDFSSIAVPGTSSPRQRQPPGTQSSHSSPGEITSSPQGLDNPALLRDMMLLANPHELSLLKE
RNPPLAEALLSGDLEKFSRVLVEQQQDRARREQERIRLFSADPFDLAQAKIEEDIRQONIEENMTIAMEEAPESFG
QVVMYINCKVNGHPVKAFVDSGAQMTIMSQAACERCNIMRLVDRRWAGIAKGVGTQKIIGRVHLAQVQIEGDFLPC
SFSILEEQPMDMLGLDMLKRHCQSIDLKKNVLVIGTTGSQTTFLPEGELPECARLAYGAGREDVRPEEI

SEQ ID NO. 84

QTGPSVTVTCTEGKWNKQCRICKEDTAPHAVLPSGSECATSCLDHNSSESIIILPMNVTVRDI PHWLNPTTRVEVSDQGH
L

SEQ ID NO. 85

MSATLILEPPGRCCWNEPVRIAVRGLAPEQRVTTLRASLRDEKGALEFRAHARYCADARGELDLERAPALGGSFAGLEP
MGLLWALEPEKPFWRFLKRDVQIPFVVELEVLDGHDPEPGRLLCQAQHERHFLPPGVRRQSVRAGRVRATLFLPPGP
GPFPGI IDIFGIGGGLLEYRASLLAGHGFATLALAYNFEDLPNNMDNISLEYFEEAVCYMLQHPQVKPGIGLLGI
SLGADICLSMASFLKNVSATVSINGSGISGNTAINYKHSSI PPLGYDLRRIKVAFSGLVDIVDIRNALVGGYKNPSM
IPIEKAQGPILLIVGQDDHNWRSELYAQTVSERLOAHGKEKQPIICYPGTGHYIEPPYFPLCPASLHRLLNKHVIWG
GEPRAHSAQEDAWKQILAFFCKHLGGTQKTA

SEQ ID NO. 86

ILHGEHTLSHQDNFSPGQEVFYSCPEPSYDLRGAASLHCTPQGDWSPEAPRCTVKS CDDFLGQLPHGRVLLPLNLQLG
AKVSFVCDEGFRLKGRSASHCVLAGMKALWNSSVPVCEXXMIKTVFLFFSLPISNNAHENPKEVAIHLHSQGGSSVH
PRTLQTNEENSRYIHTEFKMFSTTQISKMETGLETDIALANNECKNSYSLVTREIFVIHYIDCALPFGIICGLPPT
IANGDFTSISREYFHYGSSVVTYHCNLGSRGKKVFELVGEPSIYCTSKDDQVGIWSGPAPQCIIPNKCTPPNVENGIL
VSDNRSLSLNEVVEFRCPQPGFGMKGPSHVCKQALNKWEPPELPSCSRVCQPPPDVLHAERTQRDKDNFSPGQEVFY
CEPGYDLRGSTYLHCTPQGDWSPAAPRCEVKS CDDFLGQLPNGHVLFPLNLQLGAKVDFVCDEGFQLKGSSASYCVL
AGMESLWNSSVPVCERVTFQANLSPSSVQYLTHDTRLTEESSDYSTWLQNIFFPTGKSCETPPVPVNGMVHVIDIH
VGSRIYNSCTTGHRILGHSSAECILSGNTAHWSMKPPIQRI PCGLPPNITNGYFISTDREYFHYGSSVVTYHCNLGS
RGRKVFELVGEPSIYCTSKDDQVWVWSGPVQCIIPNKCTPPNVENGILVSDNRSLSLNEVVEFRCPQPGFVMKGPH
RVQCQALNKWEPPELPSCSRGSYKRNSPITNKYSGTVLSTMCQPPPEILHGEHTLSHQDNFLPGQEVFYSCPEPSYDLR
GAASLHCTPQGDWTEAPRCTGASLSPSHGSLTPVVLFFLLVKSCDDFLGQLPHGRVLFPLNLQLGAKVSFVCDEGS
ASHCVLAGTKALWNSSVPVCEQIFCPNPPAILNGRHTGTPPGDIPYGKEVSYTCDPHPDRGMTFNLIGESTIRRTSE

PHGNGVWSSPAPRCELPGVADQCNVPEWLPFARPTNLTDDEFPIGTYLNYECPGYSGRPFSIIICLKNSVWTS AKD
KCKRKSCRNPDPVNGMAHVIKDIQFRS QIKYSCPKGYRLIGSSSATCIIISGNTVIWDNKTPVCD

SEQ ID NO. 87

ICCPDDPQPAKDQLATVPKDIPLDCDCVLTGEDILGEVANRTAQGLEGLVSDSACTVGTIDAEQLSDTDSVQMFLEL
EKECLCEEGVTPLEVELQNISSSEGLAASQDAENLLVISHFSGAALKEQHLGLLHVRAKDYDTRLDCGYFNTLDSSQ
VPNAVELIAHVDIMRDTSTVSKEEKEKVPFSPRTAEFKSRQPADLDSLEKLDPGGLLNSDHRVSHEEKLSGFIASEL
AKDNGSLSQGDCSQTEGNGEECIERVTFSFAFNHELTDVTSGPVEVEVLYESNLLTDEIHLESGNVTVNQENNSLTSM
GNVVTCELSVEKVCDEDEDGEAKELDYQATLLEDQAPAHFHRNFPEQVFQDLQRKSPSEILSLHLLVEELRLNPDGVE
TVNDTKPELNVASSEGEMERRDSDFLNIFPEKQVTKAGNTEPVLEEWIPVLQRPSTAAVPTVKDALDAALPSPE
EGTSIAAVPAPEGTA VVAALVPFPHE DILVASIVSLEEEDVTAAAVSAPERATVPAVTVSVPEGTAÀVAAVSSPEET
APAVAAAITQEGMSAVAGFSPEWAALAVTVPI TEEDAAAVPTPEVAAIPAASVPTPEVPAIPAAAVPPMEEVSPIGV
PFLGVS AHTDSVP ISEEGTPVLEEASSTGMWIKEDLDSL VFGI KEVTSTVLHGKVPLAATAGLNSDE

SEQ ID NO. 88

SEGNKRRLSTAIALMGRSSVIFLDEPSTGMDPVARRLLWNMVTKTRESGKAIVMTSHSMEECDALCTSLAIMVQGKF
TCLGSPQHLKSKFGNIYILKVVKTEDKLEDFKCYVATTFPGEIAMVTVFLLLLLKVFGILEEAKEQFDLEDYSVSQ
ITLEQVFLTFANPEKASSDD

SEQ ID NO. 89

DCGPPPELPFAFFINPLYDTEFKTGTTLYKTCHPGHGKINSSRLICDAKDSWNYSIFCAIAKCEPPPDIRNGKHSGG
DQEFYTYASSVTYSCNPYFSLIGNVSISCTVENETIGVWSPNPPICE

SEQ ID NO. 90

ISKDRKERVHQCMVRAATVGYGILREGGSAVDAVEGAVVALEDDPEFNAGCGSVLNTNGEVEMDASIMDGKDL SAGA
VSAVQCIANPIKLARLVMEKTPHCFLT DQGA AQFAAAMGVPEIPGEKLVTERNKKRLEKEKEKHEKGAQKTDCQKNLGT
VGAVALDCKGNVAYATSTGGIVNKMVGRVGDSPCLGAGGYADNDIGAVSTTGHGESILKVNLARLTLFHIEQGKTVE
EAADLSLGYMKSRVKGLGGLIVVSKTGDWVAKWTSTSMPWAAAKDGKLFHFGIDPDDTTITDLP

SEQ ID NO. 91

LQLGAKVSFVCDEGFRLKGRSASHCVLAGMKALWNSSVPVCERIICGLPPTIANGDFTSISREYFHYGSVVTYHCNL
GSRGKKVFELVGEPSIYCTSKDDQVG IWSGPAPQCIIPNKCTPPNVENGILVSDNRS LFS LNEVVEFR CQPGFGMKG
PSHVKCQALNKWEPELPSCSRVCQPPPDVLHAERTQRDKDNFSPGQEVFYSCPGYDLRGSTYLHCTPQGDWSPAAP
RCEVKSCDDFLGQLPNGHVLFPNLNLQLGAKVDFVCDEGFQLKGSSASYCVLAGMESLWNSSVPVCEQIFCPNP PAIL
NGRHTGTPPGDIPYGKEVSYTCDPHPD RGMTFN LIGESTIRRTSEPHGNGVWSSPAPRCELPGVADQCNVPEWLPFA
RPTNLTDDEFPIGTYLNYECPGYSGRPFSIIICLKNSVWTS AKDKCKRKSCRNPDPVNGMAHVIKDIQFRS QIKY
SCPKG

SEQ ID NO. 92

HGRVLLPLNLQLGAKVSFVCDEGFRLKGRSASHCVLAGMKALWNSSVPVCERIICGLPPTIANGDFTSISREYFHYG
SVVTYHCNLGSRGKKVFELVGEPSIYCTSKDDQVG IWSGPAPQCIIPNKCTPPNVENGILVSDNRS LFS LNEVVEFR
CQPGFGMKGPSHVKCQALNKWEPELPSCSRVCQPPPDVLHAERTQRDKDNFSPGQEVFYSCPGYDLRGSTYLHCTP
QGDWSPAAPRCEVKSCDDFLGQLPNGHVLFPNLNLQLGAKVDFVCDEGFQLKGSSASYCVLAGMESLWNSSVPVCEQI
FCPNP PAILNGRHTGTPPGDIPYGKEVSYTCDPHPD RGMTFN LIGESTIRRTSEPHGNGVWSSPAPRCELPGVAGQY
PLPHILNGFRICSEVEVFEYLN AVTDSCDPAPGDPFSLIGESTIYCGDNSVWNHAAPECK

The present invention is not to be limited in scope by the exemplified embodiments which are intended as illustrations of single aspects of the invention, and any clones, DNA or amino acid sequences which are functionally equivalent are within the scope of the invention. Indeed, various modifications of the invention in addition to those described herein will become apparent to those skilled in the art from the foregoing description and accompanying drawings. Such modifications are intended to fall within the scope of the appended claims.